STEREO INTEGRATED AMPLIFIER/TUNER

R-SE7/SE-7(G)
SERVICE MANUAL

(HM-701)

KENWOOD

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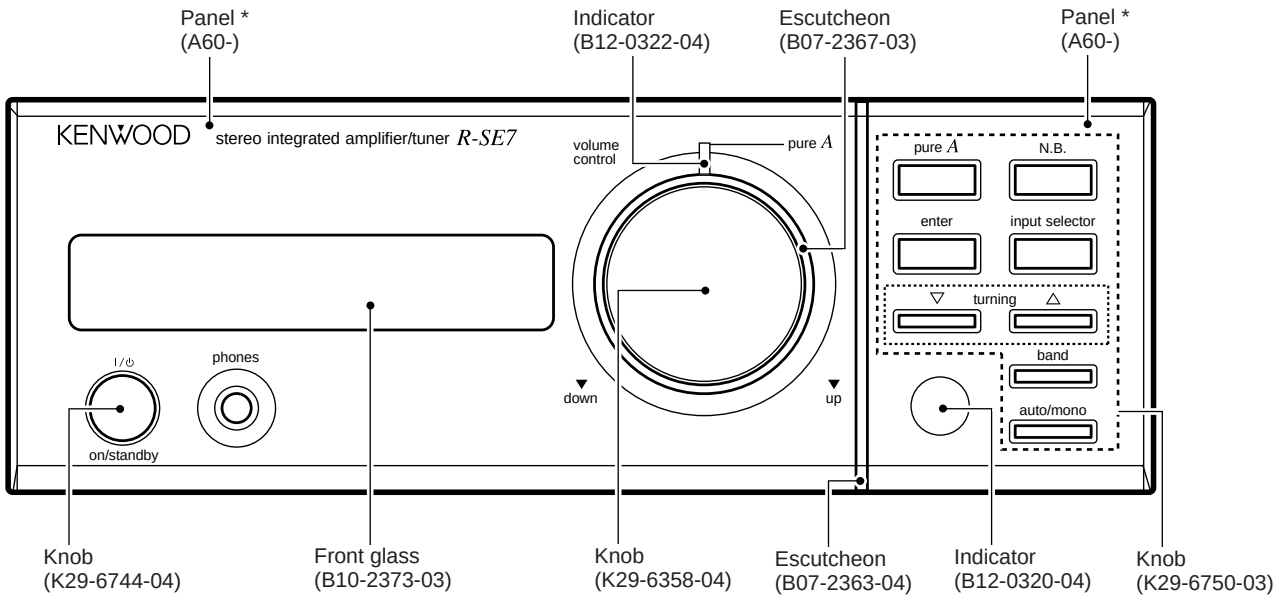
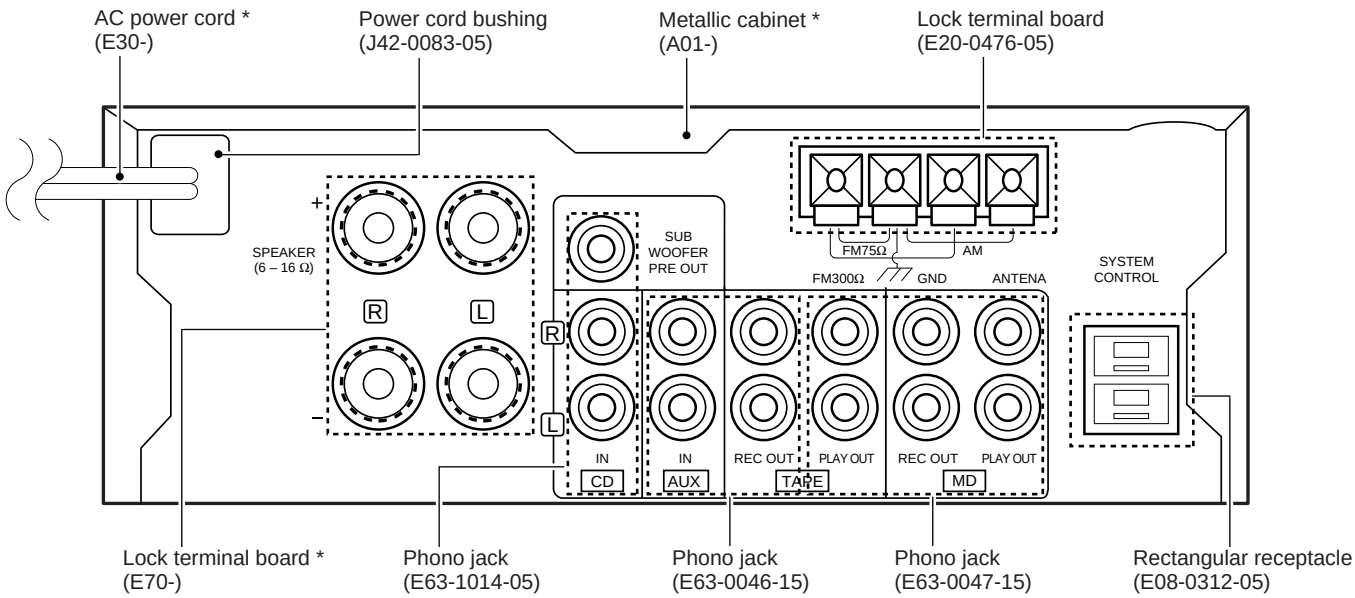




*** Refer to parts list on page 25.**

PRECAUTIONS FOR REPAIR

- For the SERIAL TEST CODE LIST of the circuit description, see Service manual (B51-5210-00) of R-SA7.
- No connection of ground line if disassemble the unit.
- Please connection the ground line on rear panel, PCBs, Chassis and some others.

R-SE7/SE-7(G)

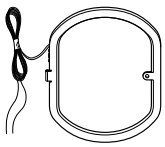
CONTENTS / ACCESSORIES

Contents

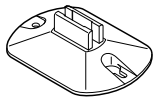
CONTENTS / ACCESSORIES 2
CIRCUIT DESCRIPTION 3
ADJUSTMENT 8
PC BOARD 10
SCHEMATIC DIAGRAM 13
EXPLODED VIEW 24
PARTS LIST.....25
SPECIFICATIONS .....Back cover

Accessories

AM loop antenna (1)
(T90-0820-05)

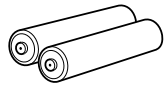


AM loop antenna stand (1)
(J19-3645-05)

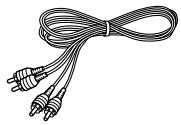


FM indoor antenna (1)
(T90-0182-15) : KM
(T90-0806-05) : ET

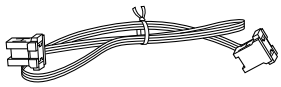
Batteries (R6/AA) (2)



Audio cords (2)
(E30-0615-05)

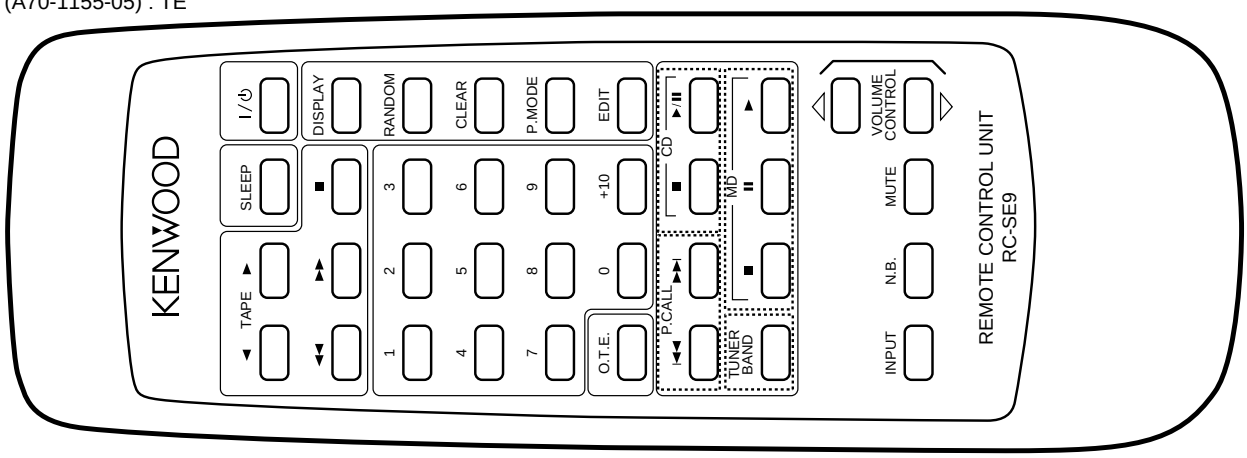


System control cord (1)
(E30-2628-05)



Remote control unit (1)
(A70-1154-05) : KM
(A70-1155-05) : TE

Battery cover (A09-0374-08)



System configuration

SYSTEM NAME	AMP/TUNER	CD PLAYER	SPEAKER
HM-701	R-SE7	DP-SE7	LS-SE7

CIRCUIT DESCRIPTION

1. INITIAL STATE

(1) AMP-related block

EPOWER	OFF
ESELECTOR SOURCE	TUNER
EDISPLAY	SELECTOR
EN.B. CIRCUIT	OFF
EA CLASS VOLUME VALUE	1.40 STEP
EAB CLASS VOLUME VALUE	7 STEP
EPURE MODE	NORMAL (AB CLASS)
EAUTO POWER SAVE	OFF
EMULTI CONTROL MODE	INPUT SEL.(R-SE9 only)

(2) TUNER-related block

EBAND	FM
EFREQUENCY	Lower-limit value of receiving frequency.
FM	87.5 MHz
AM	531 kHz
EAUTO/MANUAL	AUTO
EP.CH MEMORY	Last frequency
ELast P.CH	01ch
ERDS DATA TABLE MEMORY	NO DATA

(3) TIMER-rated block

ECLOCK	STOP (AM12:00)
EPROGRAM	WORKING MODE OFF
CONTENTS OF PROGR.	ON=AM 12:00
	OFF=AM 12:00
	PLAY MODE=PLAY
	SELECTOR=TUNER(1ch)
	REC MODE OFF
EO.T.T	WORKING MODE OFF
OTT ON TIME	AM 7:00

(4) TEST PRESET FREQUENCY

Channel	BAND	E TYPE	Channel	BAND	E TYPE
01ch	FM	87.50MHz	11ch	FM	90.00MHz
02ch	FM	97.50MHz	12ch	FM	98.00MHz
03ch	FM	108.00MHZ	13ch	FM	98.50MHz
04ch	AM	630kHz	14ch	FM	106.00MHz
05ch	AM	990kHz	15ch	AM	531kHz
06ch	AM	1440kHz	16ch	AM	990kHz
07ch	FM	87.50MHz	17ch	AM	1602kHz
08ch	FM	87.50MHz	18ch	FM	87.50MHz
09ch	FM	87.50MHz	19ch	FM	87.50MHz
10ch	FM	89.10MHz	20ch	FM	87.50MHz

ƒ The initial setting is performed in a following event :

1. When backup memory data is destroyed when reset is applied to the microprocessor.
2. When the power cord is plugged in to the AC wall outlet while pressing the on/standby key.

2. BACKUP

This function holds the current state of the unit even if the AC power of the receiver is turned OFF.

(1) Operation outline

The backup state set command signal (CE) of a microcomputer is set low when the AC power is turned OFF. The microcomputer detects the signal and enters the stop state.
The microcomputer is reset when the AC power is turned ON. The data for backup state confirmation is checked by reset processing.
The microcomputer is initialized when the data was destroyed. If it is not destroyed, the microcomputer is started in the backup state.

- EThe data for backup state confirmation is written in a RAM area.
- E The microcomputer is set to the STOP mode so as to save the power consumption.
- EA backup state set command signal is detected by a timer interrupt of 1 msec.
- EThe backup guarantee period is set in a circuit.

(2) Backup state setting

- E The data (A596, 5A69H) for backup state confirmation is written in a RAM area.

(3) Contents of backup data to be held

[[[AMP [[[
- EPOWER ON/OFF
- EDISPLAY MODE
- ESELECTOR SOURCE
- EN.B. CIRCUIT MODE
- EA CLASS VOLUME VALUE
- EAB CLASS VOLUME VALUE
- EPURE A MODE

[[[TUNER [[[
- ELAST BAND
- EPRESET CHANNEL/RECEIVING STATION FREQUENCY/PI/TA/PTY/PS
- E LAST RECEIVING STATION FREQUENCY AND PRESET CHANNEL (AM/FM)
- EPRESET MEMORY data (1ch~40ch)
- EAUTO/MANUAL

[[[CLOCK/TIMER [[[
- ELAST CLOCK DATA
- E PROGRAMMED CONTENTS/PROGRAM TIMER WORKING MODE ON/OFF
- EO.T.T. SETTING TIME/O.T.T. WORKING MODE ON/OFF

CIRCUIT DESCRIPTION

3. DESTINATION LIST OF TUNER

3-1 Destination List of Tuner

Destination	BAND	Receive frequency range	Channel space	1F	PLL reference frequency	DIODE SW DSW1 D518	DIODE SW DSW2 D519
K1	FM	87.5MHz~108.0MHz	100kHz	+10.7MHz	25kHz	1	1
	AM	530kHz~1700kHz	10kHz	+450kHz	10kHz		
E1	FM	87.5MHz~108.0MHz	50kHz	+10.7MHz	25kHz	0	1
	AM	531kHz~1602kHz	9kHz	+450kHz	9kHz		
E3 (RDS)	FM	87.5MHz~108.0MHz	50kHz	+10.7MHz	25kHz	1	0
	AM	531kHz~1602kHz	9kHz	+450kHz	9kHz		
M	K2 or E1 is changed the setting "DSW1". (DSW1=1 : K2, 0 = E1)					X	1

0 : NO DIODE 1 : DIODE X : SWITCHING TRANSISTOR

4. TEST MODE

4-1. Initializing

The system is initialized when the power is turned on while pressing the on/standby key.

(1) Contents of operation

E All the functions are initialized.

4-2. AMP test mode using main unit's keys

4-2-1. Entering the AMP test mode

E Turn on the power while pressing the BAND key.

4-2-2. Canceling the AMP test mode

E By turning off the power, the system is initialized and the test mode is canceled.

4-2-3. Contents of AMP test mode

(1) Automatic on/standby ON

E The POWER ON state is entered whenever the power is turned on while pressing the BAND key. All functions are then initialized and activated in the all-lighting mode.

E Sub-clock oscillation diagnosis function

The oscillation diagnosis (existence of oscillation and measurement of period) of a sub-clock is performed before the test mode is entered. If the diagnosis result is OK, the system enters the test mode.

If the diagnosis result is NG, the oscillation of the sub-clock is diagnosed again. If the result is OK, the system enters the test mode. If the diagnosis result is continuously NG five times, the system stops with ERR 1 and ERR 2 displayed.

(2) All-lighting mode

E All the fluorescent display indicators and LED lamps light when the power is turned on while pressing the BAND key.

E After that, the all-lighting mode is canceled when any main unit's key is pressed. The normal display obtained when the selector is set to TUNER then appears.

(3) Others

E The AMP test mode is not terminated even if the selector is set to positions other than TUNER.

E In the AMP test mode, the muting during mode selection is not controlled. However, the operation during the power-on sequence is the same as the normal operation.

E The SP protection operation is also the same as the normal operation.

E In the AMP test mode using main unit's keys, the keys below provide a special operation according to the position where the selector is set. The main unit's keys except described below and the rotary encoder provide the normal operation.

(4) When selector is set to TUNER

Key	Operation
PURE A key	Increments the P.CALL every time this key is pressed.
N.B. key	Decrement the P.CALL every time this key is pressed.
ENTER key	Selects the display cyclically in the order below every time this key is pressed.

@ Write data in the unused area of E2PROM, then read the written data. If the read data is the same as the written data, "RAM OK" is displayed in the fluorescent display indicator. If the former is different from the latter, "RAM NG" is displayed.

A Set the TUNER ATT to OFF and display the S level in hexadecimal when the ENTER key is pressed. ("ATT OFF **" is displayed in the fluorescent display indicator.)

B Set the TUNER ATT to ON and display the S level in hexadecimal when the ENTER key is pressed. ("ATT ON **" is displayed in the fluorescent display indicator.)

* The special display using the ENTER key is continued until the next operation is carried out. (**: S LEVEL)

When keys other than ENTER are pressed in items @ to B above, the TUNER ATT is set to OFF and the normal display appears. The operation corresponding to the key that has been pressed is performed in this case.

(5) When selector is set to positions other than TUNER

[ENTER key] Every time this key is pressed, master VOLUME level is selected cyclically.

INITIALIZE level → MAX → MID → MIN →

Value of Master VOLUME	Press the ENTER key.	Press the PURE A key, then press the ENTER key.
MAX	86	16.00
MID	40	8.00
MIN	1	0.20
INITIALIZE	7	1.40

CIRCUIT DESCRIPTION

[AUTO key] Selects the MUTE operation and equalizer cyclically in the order below for operation display every time this key is pressed.

-> MUTE operation -> Minimum -> Maximum -> ƒPre-condition

- ƒ In the operation for except the AUTO key, become pre-condition equlizer .
- ƒ Pre condition : The equlizer becomes the condition to be pushed the AUTO key before (include N.B. circuit).

(6) SERIAL TEST CODE LIST

Refer to Service manual (B51-5210-00) of R-SA7 on page 7.

[BAND key] Every time this key is pressed, all the displays go off and the normal display is selected cyclically.

4-3. RDS test mode using main unit's keys

4-3-1. Entering the RDS test mode

- E Turn on the power while pressing the TUNING UP key.

4-3-2. Canceling the RDS test mode

- E By turning off the power, the system is initialized and the test mode is canceled.

4-3-3. Contents of RDS test mode

- E The POWER ON state is entered whenever the power is turned on while pressing the TUNING UP key. All the functions are then initialized.
- E In the RDS test mode using main unit's keys, the keys below provides a special operation according to the position where the selector is set. The main unit's keys except described below and the rotary encoder provide the normal operation.

Key	Operation
CLASS A key	Performs the same operation as for remote control key "DISPLAY" every time this key is pressed.
INPUT SEL. key	Performs the same operation as for remote control key "PTY" every time this key is pressed.
N.B. key	Performs the same operation as for remote control key "TA" every time this key is pressed.
ENTER key	Selects the display cyclically in the order below every time this key is pressed.

- @ Write data in the unused area of EEPROM, then read the written data. If the read data is the same as the written data, "RAM OK" is displayed in the fluorescent display indicator. If the former is different from the latter, "RAM NG" is displayed.
- A Set the TUNER ATT to OFF and display the S level in hexadecimal when the ENTER key is pressed. ("ATT OFF **" is displayed in the fluorescent display indicator.)
- B Set the TUNER ATT to ON and display the S level in hexadecimal when the ENTER key is pressed. ("ATT ON **" is displayed in the fluorescent display indicator.)

* The special display using the ENTER key is continued until the next operation is carried out. (**: S LEVEL)

When keys other than ENTER are pressed in items @ to B above, the TUNER ATT is set to OFF and the normal display appears. The operation corresponding to the key that has been pressed is performed in this case.

4-4. SERIAL TEST MODE

(1) Setting the serial test mode

The unit is put into the serial test mode when a serial code "TEST ON" is input during the POWER-ON sequence.

In the 16-bit serial test mode, serial code C27FH is input.

- E In the serial test mode, all remote control keys and ordinary serial codes are disabled. Only the panel keys perform the same operation as usually.

(2) Canceling the serial test mode

- E The serial test mode is canceled to return to the ordinary mode by inputting a "TEST OFF" code (C27 EH). After the ordinary mode was returned, the serial mode is returned to the state before the test mode is entered. The backup operation is not initialized.
- E The serial test mode is also canceled when the AC power is turned OFF.

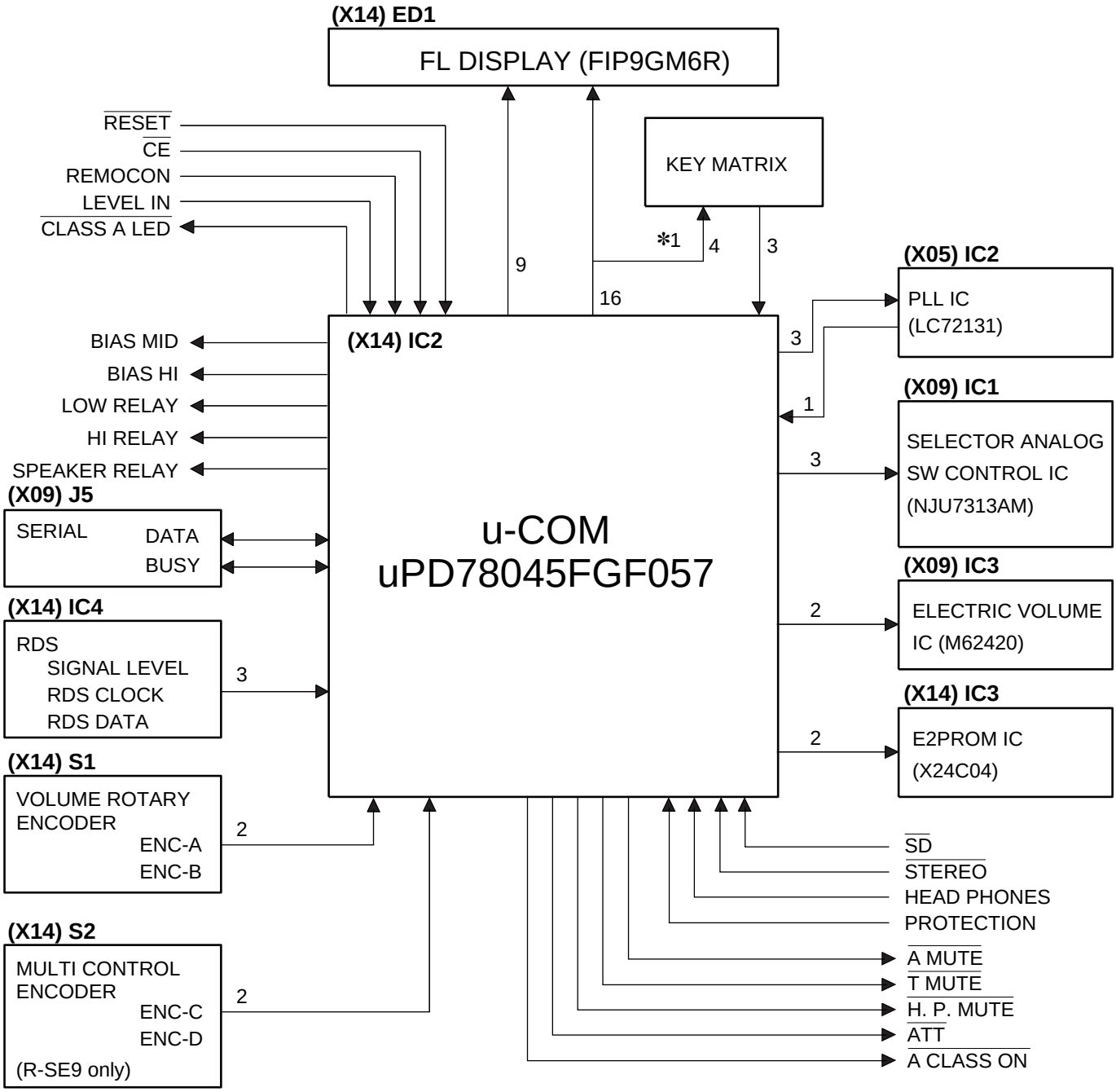
(3) Cautions

- E The serial test code is prescribed as a 16-bit code only.
- E The operations below are inhibited in the serial test mode. The operations mentioned above cannot be guaranteed when they are performed in the serial test mode.
- E An identical code is output when the serial test mode code is input.

CIRCUIT DESCRIPTION

5. Microprocessor : uPD78045FGF057 (X14 : IC1)

5-1 Microprocessor periphery block diagram



Key matrix No. of ◯ : u-COM port No.

	⑥⓪ KR0	⑤⑨ KR1	⑤⑧ KR2
⑥④ KS0	DSW0	DSW1 (D158)	DSW2 (D159)
⑥③ KS1	POWER	AUTO / MONO	BAND
⑥② KS2	N. B. CIRCUIT	(R-SE7) INPUT SEL. (R-SE9) MODE	(R-SE7) TUNING UP (R-SE9) No. use
⑥① KS3	pure A	ENTER	(R-SE7) TUNING DOWN (R-SE9) No use

CIRCUIT DESCRIPTION

5-2 Pin description

Pin No.	Name	I/O	Description	Active
1~7	7G~1G	O	FL grid 7~1	—
8	VDD	—	Micro processor power supply (+5V)	—
9	E2PROM SCL	O	E2PROM control clock	—
10	E2PROM SDA	I/O	E2PROM control data	—
11	ENC C	—	Multi control encoder input A	—
12	ENC D	—	Multi control encoder input B	—
13	A CLASS ON	O	Power ON/OFF control signal	H : OFF L : ON
14	SEL STB	O	Selector IC strobe	—
15	SEL/PLL CLK	O	SEL/PLL IC control clock	—
16	SEL/PLL DATA	O	SEL/PLL IC control data	—
17	RESET	I	Microprocessor reset	L : RESET ON
18	CE	I	AC OFF(MAIN POWER) detection Signal	L : AC OFF
19	PLL DO	O	IF count data	—
20	AVSS	—	A/D power SUPPLY (GND)	—
21	PLL CE	O	PLL chip enable control	L : CE
22	T MUTE	O	Tuner mute signal	L : MUTE ON
23	STEREO	I	Stereo signal detection	L : STEREO ON
24	SD	I	Synchronized signal detection	—
25	VOL SCL	O	Electric volume IC control clock	—
26	VOL SDA	O	Electric volume IC control data	—
27	LEVEL IN	I	Volume level input	—
★28	S.LEVEL(RDS)	I	Signal level	—
29	A VDD	—	A/D power supply (+5V)	—
30	A VREF	—	A/D reference voltage(+5V)	—
31, 32	OSC	—	32kHz oscillator	—
33	Vss	—	Microprocessor power supply (GND)	—
34, 35	OSC	—	4.19MHz oscillator	—
36	S.DATA	I/O	16bit system data	—
37	S.BUSY	I/O	16 bit system busy	H : BUSY L : READY
38	H.P. MUTE	O	Head phones mute signal	L : ON
39	ATT	O	CLASS A control signal	H : A CLASS L : AB CLASS
40	A MUTE	O	Audio mute signal	L : ON
41	HIGH RELAY	O	AMP high relay control	H : ON L : OFF
42	LOW RELAY	O	AMP low relay control	H : ON L : OFF
43	SP RELAY	O	Speaker relay control	H : ON L : OFF
★44	CLK(RDS)	I	RDS clock	—
★45	DATA(RDS)	I	RDS data	—
46	PROTECTION	I	Protection detection	H : ON L : OFF
47	REMOCON	I	Remote control input	—
48	IC	—	—	—
49	CLASS A LED	O	CLASS A LED	H : OFF L : ON
50	BIAS MID	O	Bias control signal MID	—
51	BIAS HI	O	Bias control signal HI	—
52	VDD	—	Microprocessor power supply (+5V)	—
53	ENCA	I	Volume encoder in put A	—
54	ENC B	I	Volume encoder input B	—
55	HEAD PHONE	I	Head phones signal detection	H : ON L : OFF
56, 57	NC	O	—	—
58~60	KR2~KR0	I	KEY return 2~0	H : KEY ON
61~64	SEG16~13/KS3~0	O	FL Segment 6~13 /key scan 3~0	H : ON
65~70	P12 SEG12~SEG7	O	FL Segment 12~7	H : ON
71	V load	—	FL drive power supply (-30V)	—
72~77	P6 SEG6~SEG1	O	FL Segment 6~1	H : ON
78	NC	O	—	—
79, 80	9G, 8G	O	FL grid 9, 8	—

★ E/T type only, other types unused.
The RDS PTY AF search always corresponds to a span search of 100kHz. Therefore, a span search of 50 KHz cannot be performed.

ADJUSTMENT

FM SECTION SELECTION :FM
X05-4622-71 (E/T TYPE)

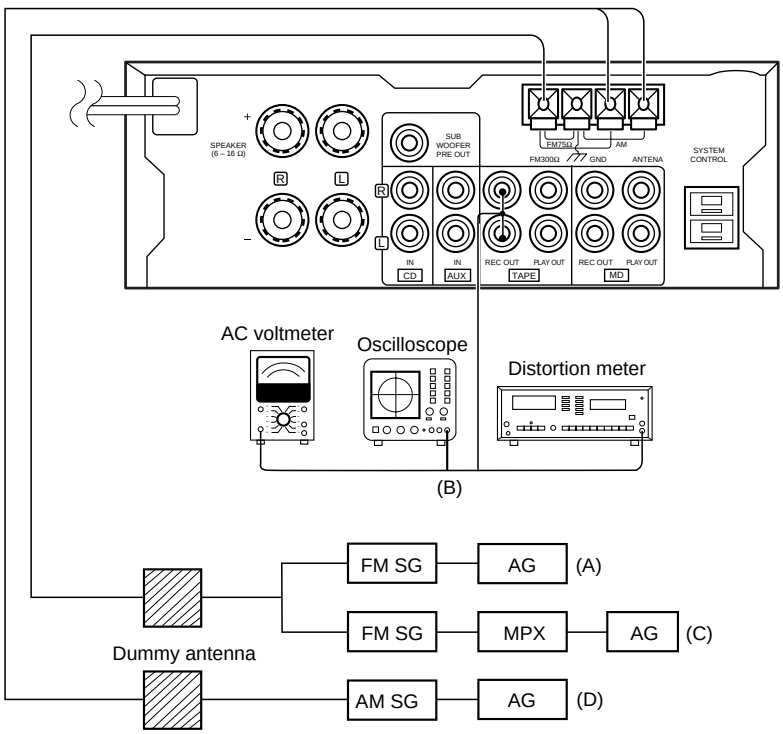
NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	DISCRIMINATOR	(A) 98.0kHz 1kHz, ±75kHz dev. 60dBμ(ANT input)	Connect a DC voltmeter between Pin 1 and Pin 2 of CN 2.	MONO 98.0MHz	L 31	0V	(a)
					L 32	Minimum distortion.	
2	DISTORTION (STEREO)	(C) 98.0MHZ 1kHz, ±68.25kHz dev. Pilot: ±6.75kHz dev. 60dBμ(ANT input)	(B)	AUTO 98.0MHz	IFT (A1)	Minimum distortion.	(a)

AUDIO SECTION (X09-469x-xx)

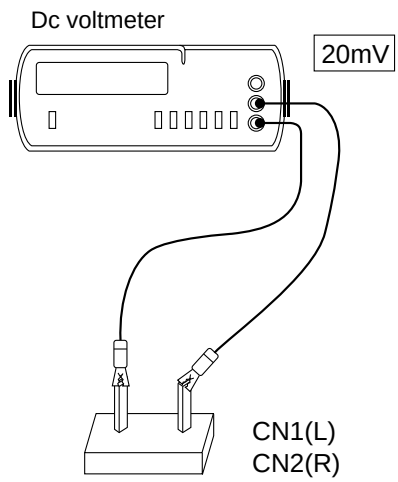
NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMP SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
POWER: ON SELECTOR : AUX							
1	B CLASS IDLE CURRENT	—	Connect a DC voltmeter across CN1(L) CN2(R) (X09, A/7)	PURE A : OFF Volume : 0	VR1(L) VR2(R) (X09, A/7)	20mV	(b)

SYSTEM CONNECTIONS

(a)



(b)

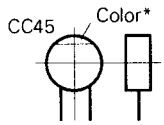


PARTS DESCRIPTIONS

CAPACITORS

CC 45 TH 1H 220 J
1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc.
2 = Shape ... round, square, ect.
3 = Temp. coefficient
4 = Voltage rating
5 = Value
6 = Tolerance



• Capacitor value

010 = 1pF
100 = 10pF
101 = 100pF
102 = 1000pF = 0.001µF
103 = 0.01µF

2 2 0 = 22pF
0 = Multiplier
2 = 2nd number
2 = 1st number

• Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

• Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 - 20	+100 -0	More than 10µF – 10 ~ +50 Less than 4.7µF -10 ~ +75

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

• Voltage rating

2nd word / 1st word	A	B	C	D	E	F	G	H	J	K	V
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	–
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	–
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	–

• Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J
1 2 3 4 5 6 7
(Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z
1 2 3 4 5 6 7
(Chip) (B, F)

Refer to the table above.
1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Voltage rating
6 = Value
7 = Tolerance

Dimension (Chip capacitors)

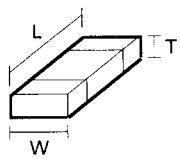
Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

RESISTORS

• Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J
1 2 3 4 5 6 7
(Chip) (B,F)

Dimension



• Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J
1 2 3 4 5 6 7

1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Rating wattage
6 = Value
7 = Tolerance

Dimension (Chip resistor)

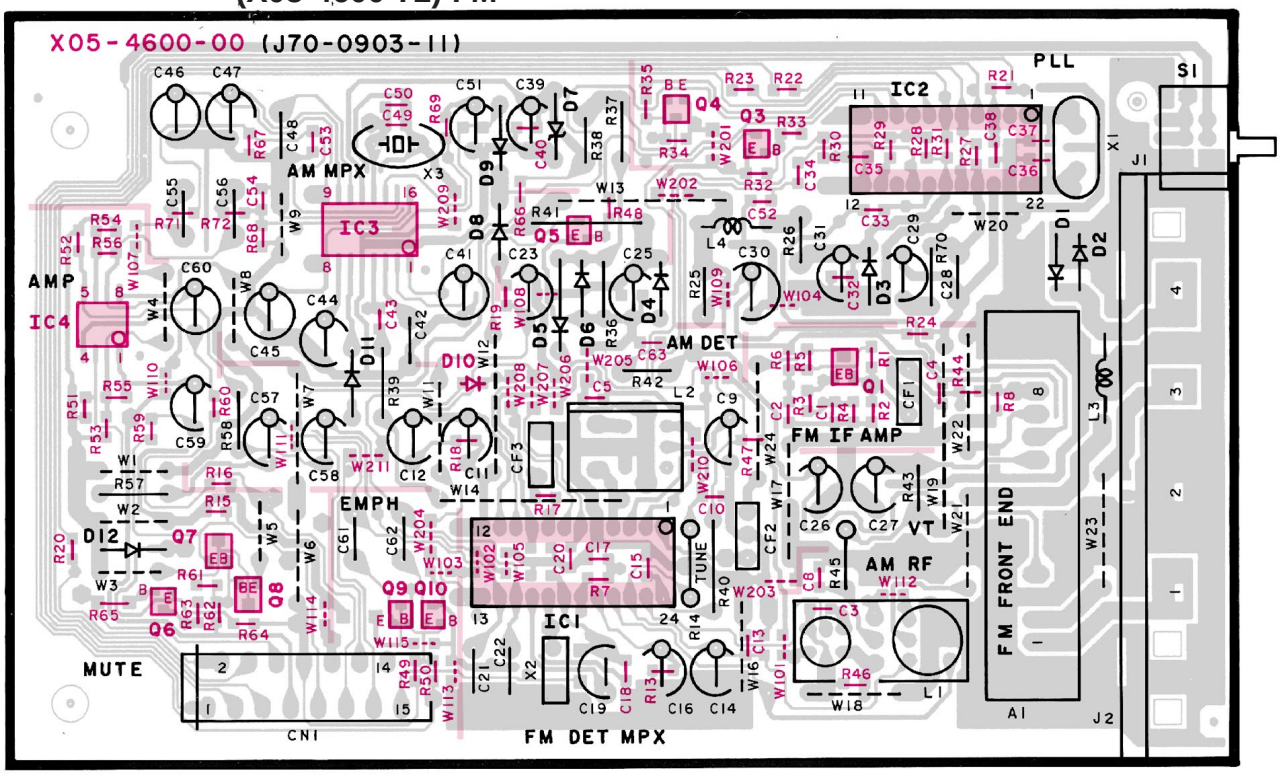
Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1

Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

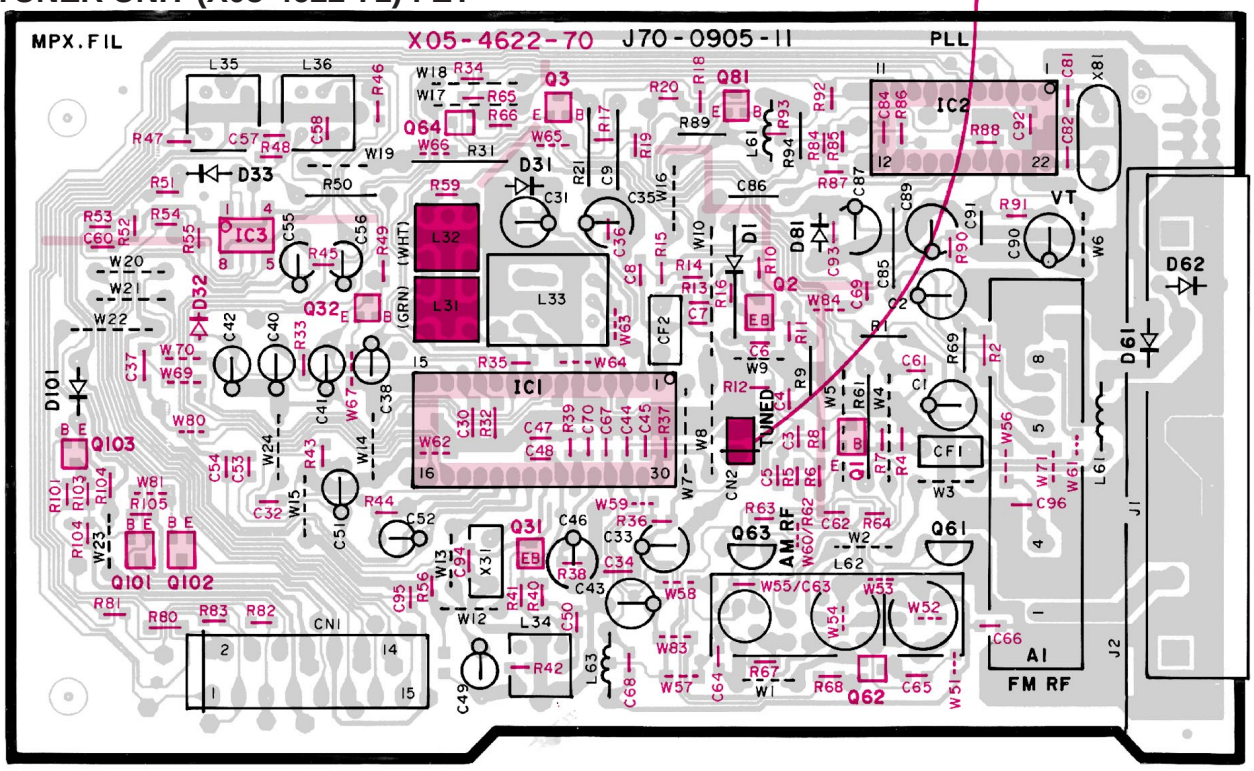
PC BOARD(Component side view)

TUNER UNIT (X05-4600-12) : K
(X05-4600-72) : M



TUNER UNIT (X05-4622-71) : ET

DC voltmeter
Discriminator : 0V

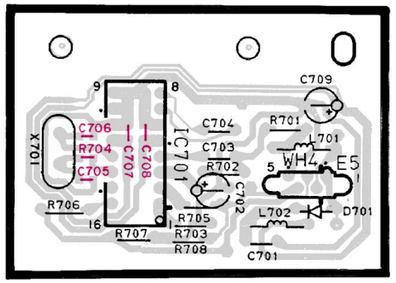


Refer to the schematic diagram for the value of resistors and capacitors.

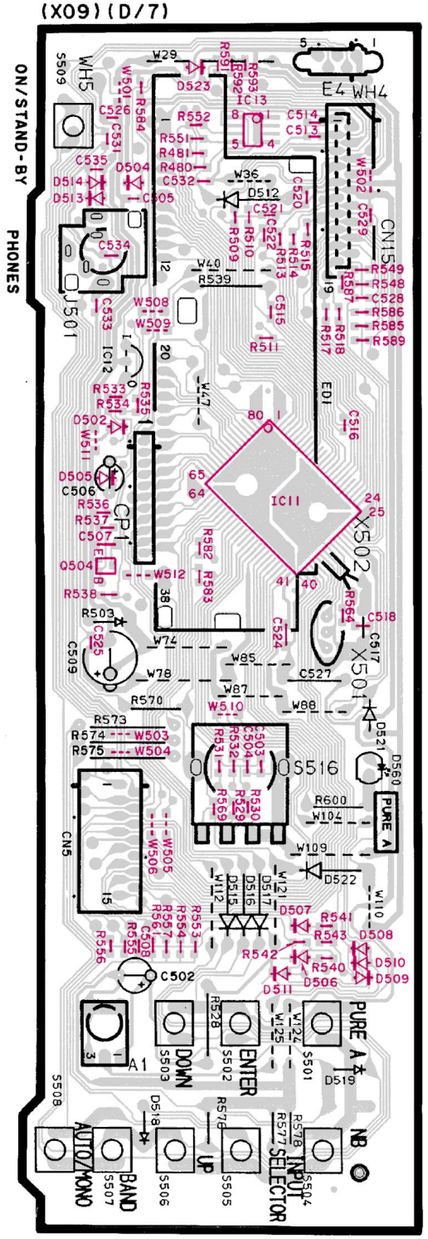
PC BOARD(Component side view)

AUDIO UNIT (X09-4690-11) : K
(X09-4690-21) : M
(X09-4692-71) : ET

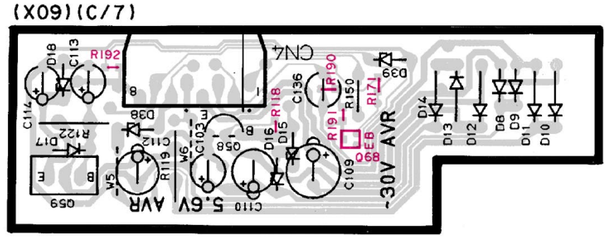
(X09)(E/7)



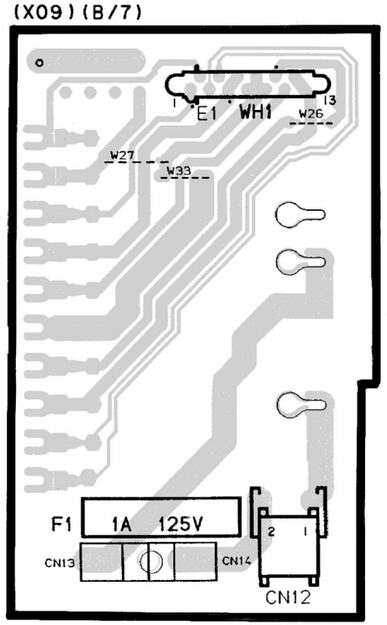
(X09)(D/7)

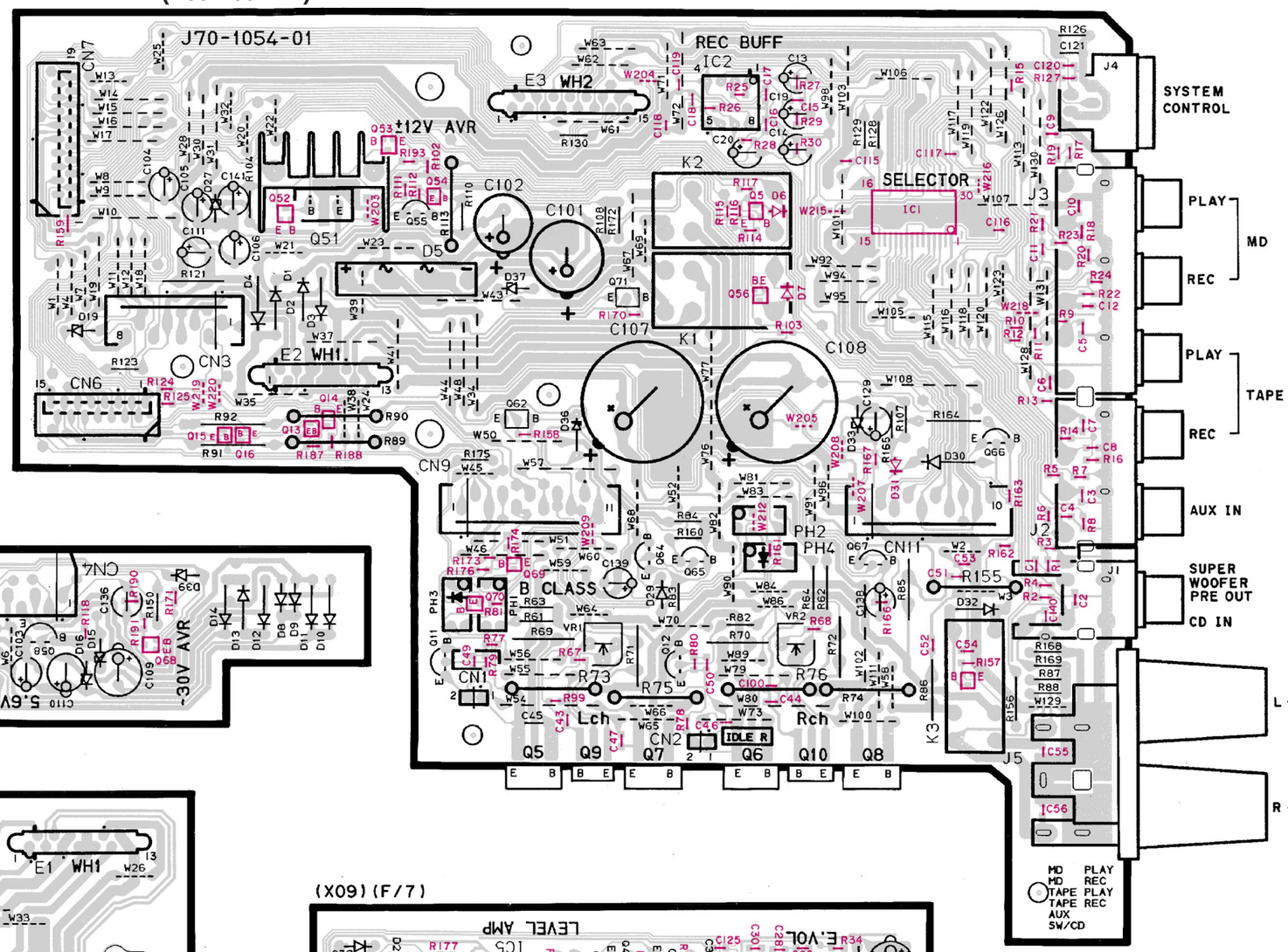


(X09)(C/7)

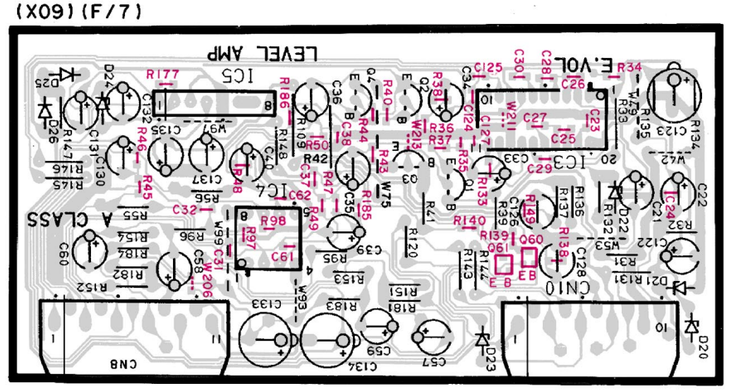


(X09)(B/7)





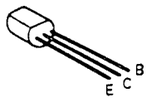
(X09)(F/7)



Refer to the schematic diagram for the value of resistors and capacitors.

TUNER UNIT (X05-4600-xx)

2SA1534A
2SA954
2SA992
2SB764
2SC1845
2SC2003



2SC4137

2SB1659
2SD2589

UN5219
2SA1586
2SC2714
2SC4116

2SD1757K

NJM4565D-D

M62420SP

SAA6579

M5219P

NJM4565M

M5223FP

A1 (W02-2608-05) FM FRONT END

TR1 :2SK360
TR2~4 :2SC2413K or 2SC2778
D1~3 :1SV225 or HVM16

IC1 : LA1832
IC2 : LC72131
IC4 : NJM4565M

Q1 : 2SC2714(R.O)
Q3 : 2SA1586(Y,GR) or 2SA1611(M5,M6)
Q5 : 2SC4116(Y,GR) or 2SC4177(C5,C6)

D1,2,8 : 1SS133 or HSS104
D3,4 : MTZJ5.1(B)or UZ-5.1BSB

D10 : MA111

VT VOLTAGE
LF:LOW FREQUENCY
HF:HIGH FREQUENCY

BAND	FREQ.	VT VOLTAGE
FM	LF	1.7V
	HF	4.1V
AM	LF	1.2V
	HF	4.7V

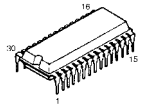
SIGNAL LINE
GND LINE
+B LINE
-B LINE

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

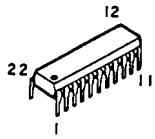
The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in ( ) is actual reading measured in the AM made.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

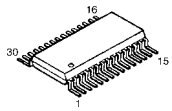
LA1836



LC72131



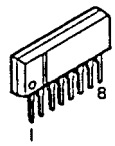
NJU7313AM



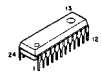
X05-460X-XX

DISTNATION		UNIT	C21, 22
CONTRY	ABB	NO	
GENERAL MARKET	M	0-72	0.011µ
USA	K	0-12	0.016µ

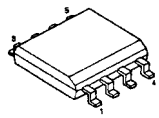
NJM4565L-D

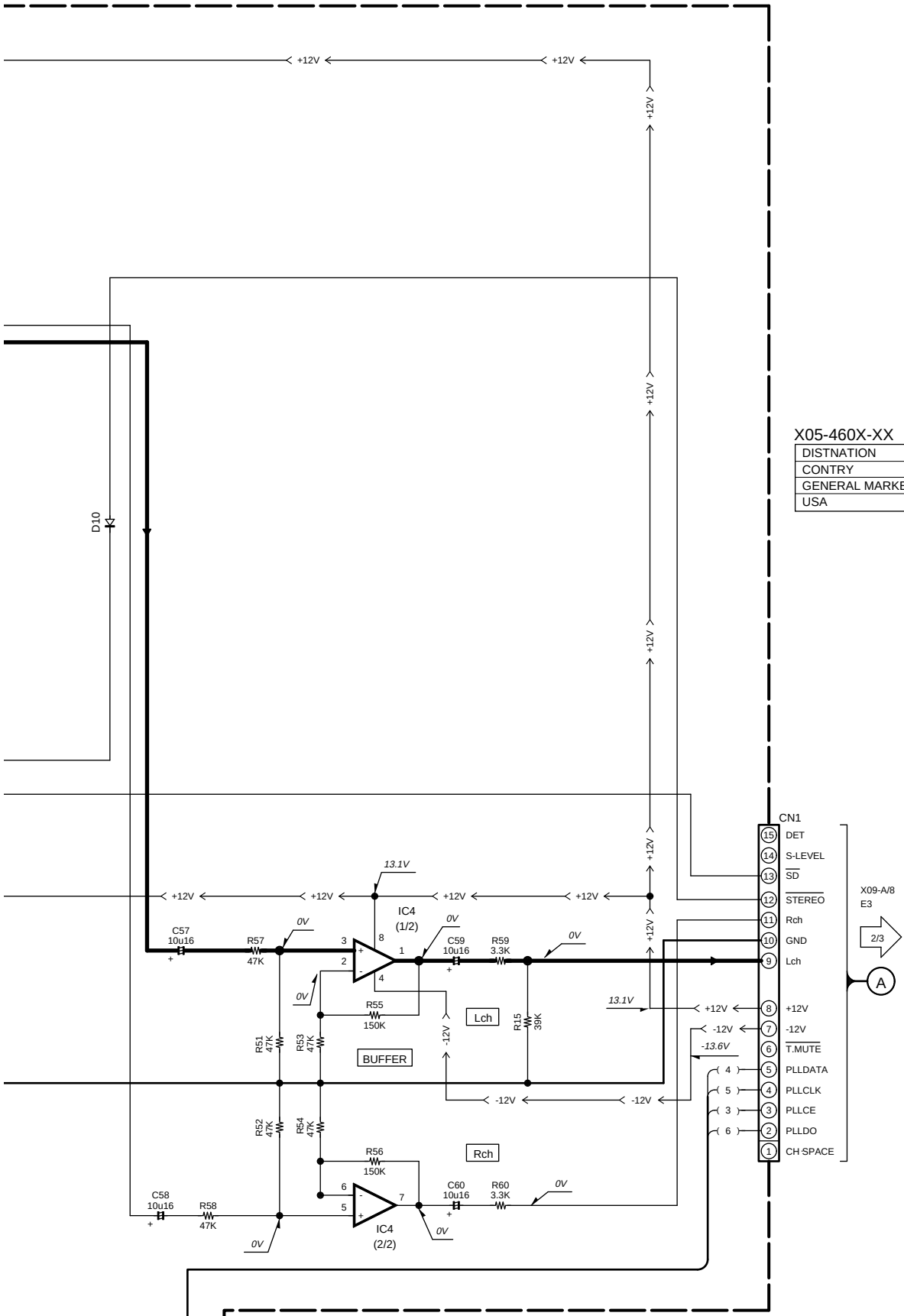


LA1832



X24C04S





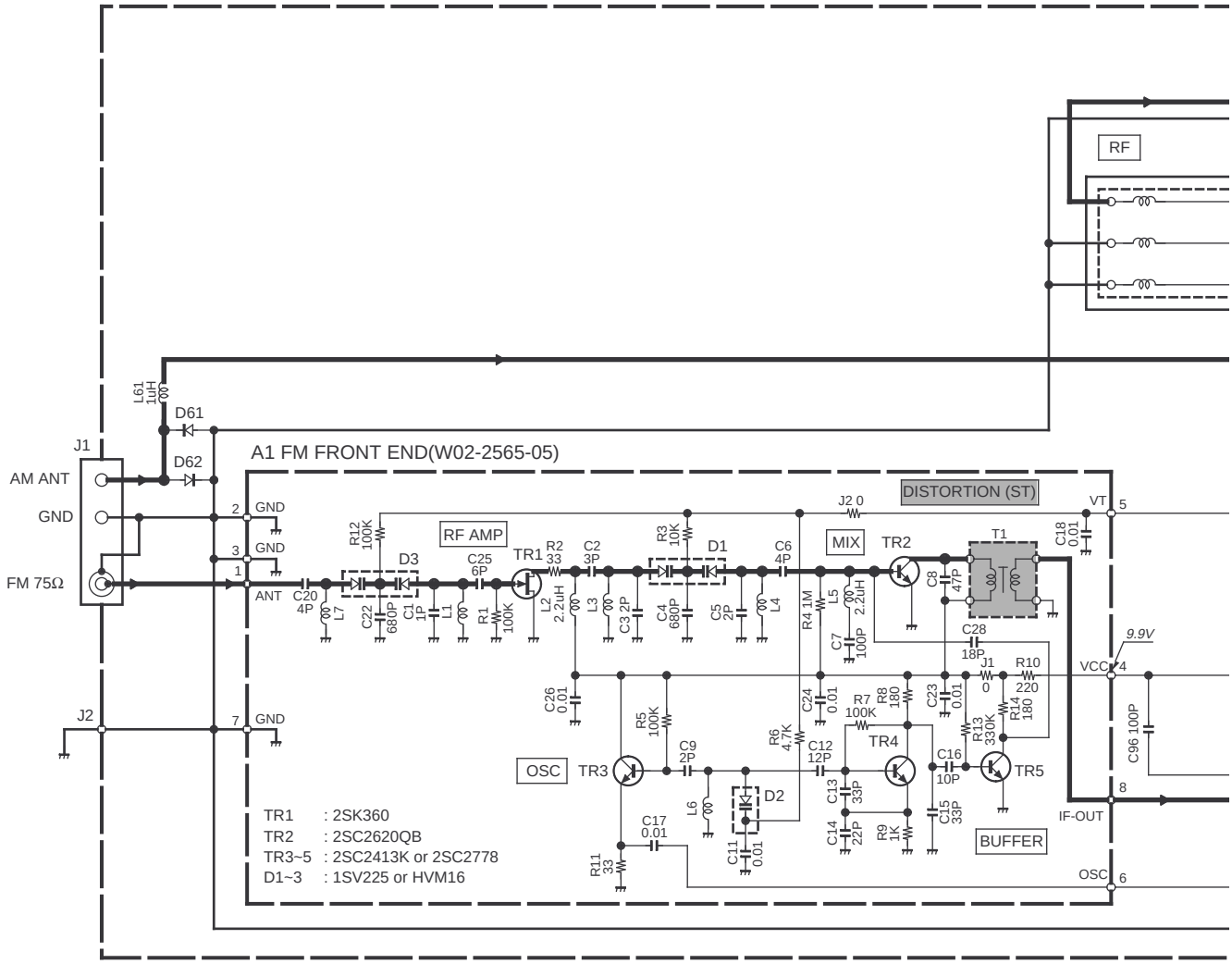
R-SE7

R-SE7/SE-7(G)

Y05-3480-11

KENWOOD

TUNER UNIT (X05-4622-71) : TE



VT VOLTAGE
LF: LOW FREQUENCY
HF: HIGH FREQUENCY

BAND	*FREQ.*	*VOLTAGE(VT)*
FM	*LF*	*2.1V*
	HF	*7.5V*
AM	*LF*	*1.1V*
	HF	*4.6V*

IC1 : LA1836
IC2 : LC72131
IC3 : M5223FP

Q1,2 : 2SC2714(R,O)
Q3,81,103 : 2SA1586(Y,GR) or 2SA1611(M5,M6)
Q31,32 : 2SC4116(Y,GR) or 2SC4177(L5,L6)
Q101,102 : 2SD1757K

D1,33,61,62 : 1SS133 or HSS104
D31 : MTZJ8.2(B) or UZ-8.2BSB
D32 : MA111
D81 : MTZJ5.1(B) or UZ-5.1BSB
D101 : MTZJ3.3(B) or UZ-3.3BSB

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

SIGNAL LINE
GND LINE

The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in ( ) is actual reading measured in the AM made.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

U V W X Y Z AA AB AC AD

DISCRI CN2 ① ②

L63 10uH

L62 R67 100K OSC C64 0.033 C66 6P C67 22P C68 2P C63 4P C61 0.01

R69 10K R2 220

C43 0.47u50 C44 0.047 R37 27K C45 22P

R38 33K C46 100u10 C70 100P R39 22K C47 6800P X31 456K

C48 100P R40 3.3K R41 2.2K R42 47K

Q31 3.1V BUFFER B.P.F L34 C50 1000P

C49 1u50 C52 10u10 C51 10u10 R44 3.3K R43 3.3K C53 0.027 C54 0.027 C56 2.2u35 C55 2.2u35 R46 1.2K R45 1.2K

C94 1000P R56 100K R55 47K IC3(1/2) R54 68K 7.0V BUFFER DET-OUT

IC3(2/2) R50 10K D33 R51 1K R53 1K R52 100K C60 0.1 4.3V

L36 L35 C58 6800P C57 6800P R47 3.9K R48 3.9K

IC1 FM/AM/MPX SYSTEM IC

OSC OUT FM SDADJ (30) AM OSC (29) AFC (28) AM RF IN (27) AM AGC (26) AM LOW OUT (25) DET OUT (24) MPX VCO (23) MPX IN (22) MPX OUT R (21) MPX OUT L (20) AMP IN R (19) AMP IN L (18) AMP OUT R (17) AMP OUT L (16)

FM IF IN (1) AM MIX OUT (2) FM IF BIAS (3) REG (4) AM IF IN (5) GND (6) SD (7) ST AM IF (8) FM DET (9) VCC (10) FM/AM IF SEEK (11) AM SDADJ V-SM (12) AM NARROW (13) PHASE DET FM/AM SW (14) PILOT DET (15)

R36 39K

R9 100 R15 100 R10 3.3K R14 330 R7 3.3K R8 330 C5 0.01 C6 0.01 CF2 C1 47u16 C2 1u50 R1 100 1/4W CF1 Q1 Q1,2 FM IF AMP C4 0.01 R11 680 Q2 R6 22 R16 22 C8 0.01 R3 3.3K R4 680 R5 330 C3 0.01 R12 1.2K R13 330 C7 0.01

C33 10u16 C34 0.1 C35 10u16 C36 0.047 L33 AM IFT C37 1

L31 L32 R59 2.2K DISCRIMINATOR R35 33K D31 R31 82 1W C31 47u16 C32 0.01

R32 5.6K C38 10u10 C30 0.047 C40 1u50 R33 3.3K C41 0.47u50 C42 2.2u35 R34 8.2K D32 FM/AM SW Q32 R49 47K C95 47P

C69 0.01

CN1
15 DET-OUT
14 S-LEVEL
13 SD
12 STEREO
11 Rch
10 GND
9 Lch
8 +12V
7 -12V
6 T.MUTE
5 PLL-DATA
4 PLL-CLK
3 PLL-CE
2 PLL-DO
1 NC

X09-A/8 -E1 2/3 A

VT

C91 0.022 C90 2.2u50 R91 2.2K R88 1K C95 100P C82 27P C81 22P C92 470P X81 7.2MHz

IC2 PLL IC

REFERENCE DIVIDER | PHASE DETECTOR CHARGE PUMP | 1/2 | SWALLOW COUNTER 1/16,1/17 4bits | 12bits PROGRAMABLE DIVIDER | UNLOCK DETECTOR | POWER ON RESET | C²B I/F | DATA SHIFT REGISTER LATCH | UNIVERSAL COUNTER

R83 1K R82 1K R81 1K R80 1K

C86 1000P R87 1K R86 1K R85 1K C87 47u10 C93 0.01 D81 C84 1000P C89 47u16 R94 560 1/4W L81 1uH R89 100 1/4W R90 5.6K R84 10K

FM Q81 R93 1.2K R92 12K

D1 R19 4.7 RF ATT Q3 R17 620 R21 100K C9 0.01 R20 1.2K R18 12K

MUTE Q101 R104 47K R105 10K Q102 R103 820 MUTE CONTROL Q103 R101 1K D101 R102 1K

MUTE ON:0V MUTE OFF:4.8V

R-SE7

R-SE7/SE-7(G)

Y05-3480-11

KENWOOD

AUDIO UNIT
(X09-4690-00) (A/7)

CN7 SLEVEL, LEVEL IN, SDA, SCL, SD, ST, T.MUTE, CE, DO, D.GND, 5.6V, F.OFF, PLL/SEL DATA, PLL/SEL CLK, SEL ST, +12V ON/OFF, -30V, AC FL, AC FL

CN6 DET, HP Lch, GND, HP Rch, BAS-HI, BAS-MID, PROTECTION, SP-RELLAY, RELLAY HI, RELLAY LOW, MUTE, ATT, HP MUTE, SBUSY, SDATA

CN11 LEVEL GND, MUTE, ATT, LEVEL IN, GND, -12V, +12V, Lch, GND, Rch

CN9 SCL, SDA, Lch NF, Lch OUT+, Lch OUT-, Rch NF, Rch OUT-, Rch OUT+, +B, -B, GND

E3 DET, SLEVEL, SD, STEREO, Rch, GND, Lch, +12V, -12V, T.MUTE, DATA, CLK, CE, DO, NC

X05-CN1 1/3 — WH2 — A

J1 SUPER WOOFER PRE OUT

J2 CD IN (Lch, Rch) / AUX IN (Lch 1, Rch 2) / REC (Lch 3, Rch 4)

J3 TAPE (Lch 1, Rch 2) / PLAY / REC (Lch 3, Rch 4) / MD (Lch 5, Rch 6) / PLAY

IC1 INPUT SELECTOR — VDD, VSS, TUNER, CD, AUX, TAPE, SOURCE, MD, REC TAPE, MD, NC, DATA, CLK, NC, ST, GND

IC2 REC OUT BUFFER — IC2(2/2), IC2(1/2)

J4 SDATA, SBUSY, GND — SYSTEM CONTROL

CN3 5.6V, -30V, F.OFF, GND, AC, AC, HP.MUTE, HP.MUTE

Q13-16 PHONES MUTE

Q69 PH1,2 CONT. — PH1, PH2, PH3, PH4

Q70 PH3,4 CONT.

Q5-8 FINAL TR.

IDLE ADJ.(L)

IDLE ADJ.(R)

CURRENT DETECTOR

DC DETECTOR

PROTECTION

*B DETECTOR

12V AVR

-12V AVR

-20V AVR

K2 ON/OFF

K1 ON/OFF

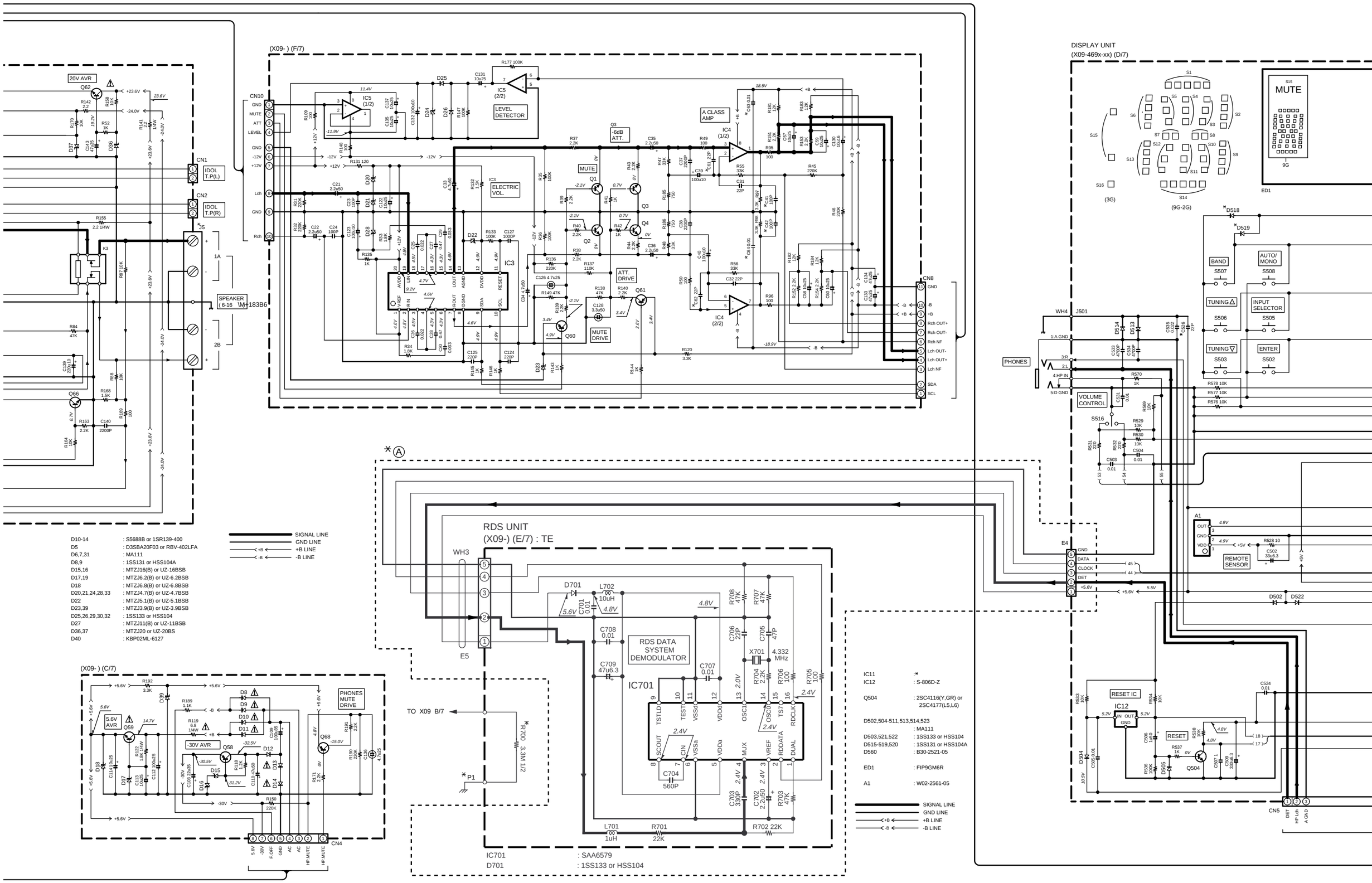
IC1 : NJU7313AM
IC2 : NJM4565D-D
IC3 : M62420SP
IC4 : M5219P
IC5 : NJM4565L-D

Q1-4 : 2SC4213(B)
Q5,6,51 : 2SD2589
Q7,8 : 2SB1659
Q9,10 : 2SC4137(V,W)
Q11,12,52,64-66 : 2SC1845(F,E)
Q13-16 : 2SC4213(B)
Q56,57,63,69,70 : 2SC4116(Y,GR) or 2SC4177(L5,L6)
Q53 : DTC113ZUA or UN5219
Q54,67 : 2SA992(F,E)
Q55 : 2SA1534A(R,S)
Q58 : 2SB764(E,F)
Q59 : 2SD2525
Q60,61,68 : 2SA1586(Y,GR) or 2SA1611(M5,M6)
Q62 : 2SC2003(L,K)
Q71 : 2SA954(L,K)

(X09-) (B/7) — WH4 — TO X09 E/7 — CN12 — F1 1A 125V — CN13 — CN14

K AC120V 60Hz
TE AC120V 50Hz
M AC110V 50Hz

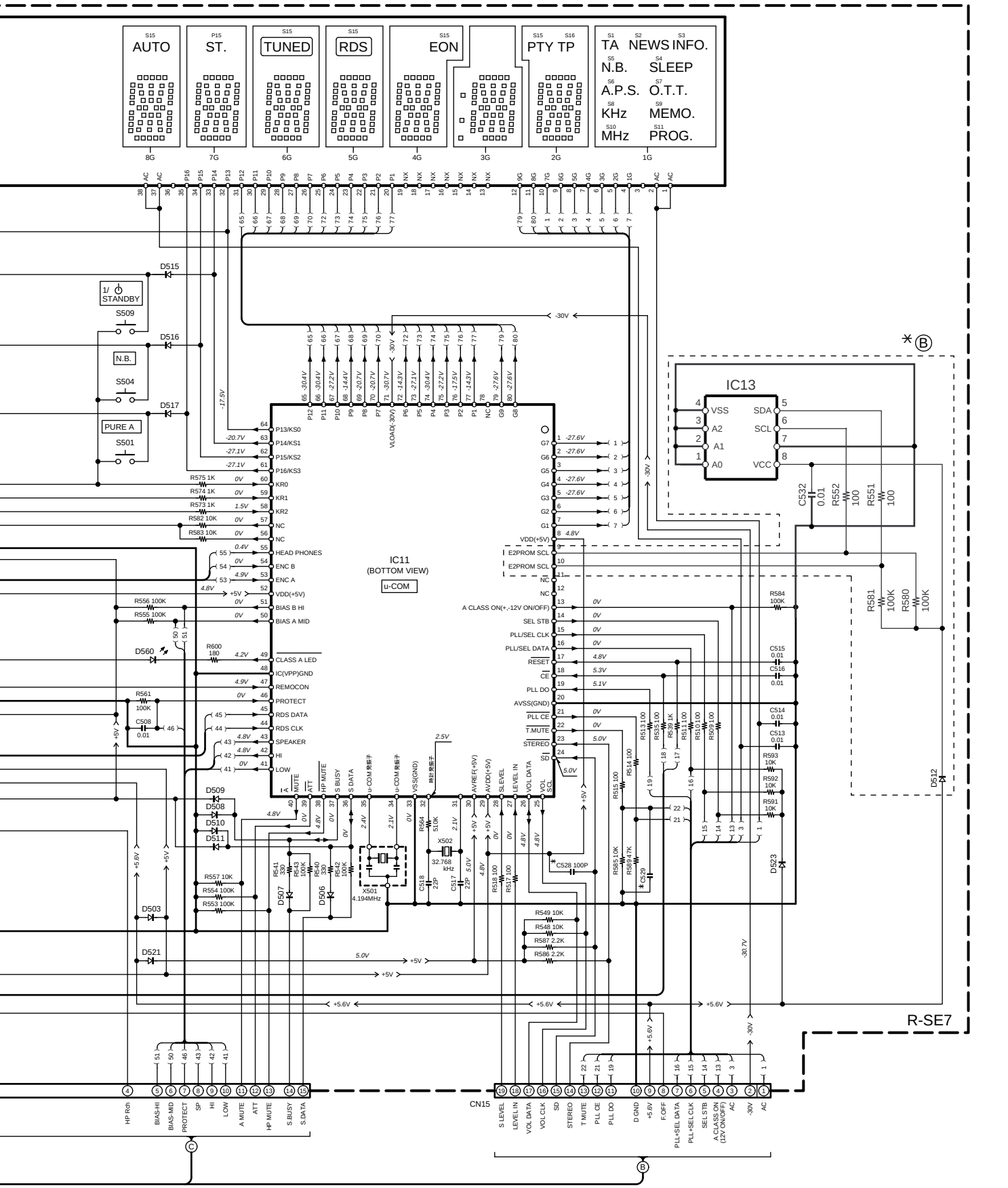
WH1 — E2 — E1



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with a cassette loaded at playback mode. The measurement value may vary depending on the measuring instruments used or on the product. Bias circuit DC voltage is measured while in the record mode.

DISTINATION		UNIT	C51, 52	C53, 54	E/7	C61-64	R49, 50	R159	F1	J5	WH4	W2, 3	Ⓐ	Ⓑ	C526, 528 529	D518	D519	IC11	C41,42	R700	P1
CONTRY	ABB.	NO																			
GENERAL MARKET	M	0-21	0.047µ	NO	NO	NO	100	YES	800mA L 250V	E70-0061-05	NO	YES	NO	NO	NO	YES	NO	UPD78045 FGF057	YES	NO	NO
UK	T	2-71	0.1µ	YES	YES	YES	1K	NO	400mA L 250V			NO	YES	YES	YES	NO	YES		NO		
EUROPE	E																				
USA	K	0-11	0.047µ	NO	NO	NO	100	YES	1A 125V	E70-0034-05	YES	YES	NO	NO	NO	YES	NO	UPD78045FGF059	YES	YES	YES

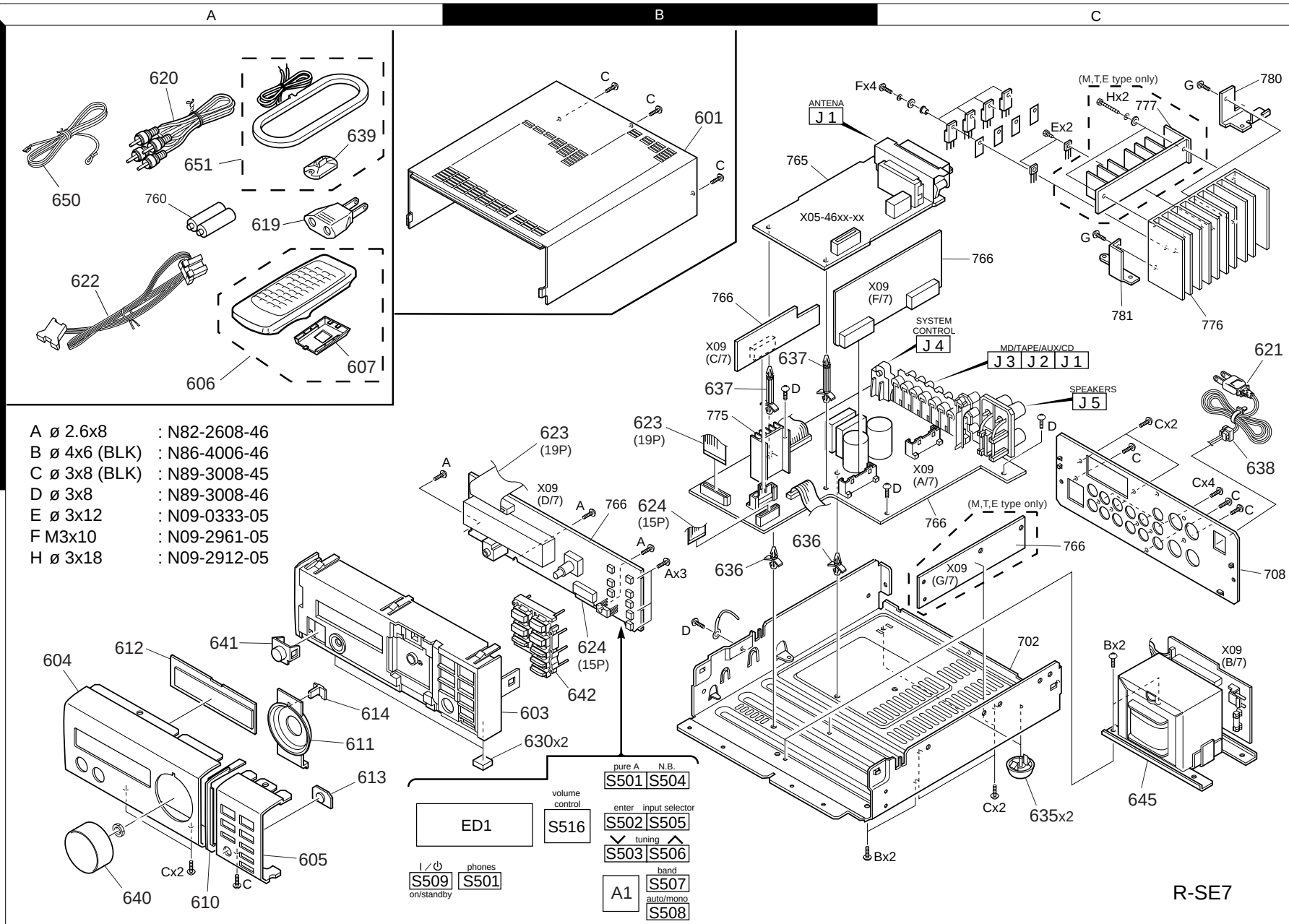


R-SE7/SE-7(G)

KENWOOD

R-SE7/SE-7(G)

EXPLODED VIEW (UNIT)



Parts with exploded numbers larger than 700 are not supplied.

✻ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

❶

Ref. No	Address	New Parts	Parts No.	Description	Destination	Remarks
				R-SE7		
601	1B		A01-3471-11	METALLIC CABINET	MET1T2	
601	1B	✻	A01-3541-01	METALLIC CABINET	K	
603	2B		A22-1783-11	SUB PANEL		
604	2A		A60-1207-03	PANEL	M	
604	2A	✻	A60-1209-03	PANEL	T1T2E	
604	2A	✻	A60-1347-03	PANEL	K	
605	2A		A60-1208-03	PANEL	MET1K	
605	2A		A60-1302-03	PANEL	T2	
606	1A		A70-1154-05	REMOTE CONTROLLER ASSY(RC-SE9)	MK	
606	1A		A70-1155-05	REMOTE CONTROL ASSY RC-SE9(E)	T1T2E	
607	1A		A09-0374-08	BATTERY COVER		
610	2A		B07-2363-04	ESCUTCHEON		
611	2A		B07-2367-03	ESCUTCHEON VR		
612	2A		B10-2373-03	FRONT GLASS PURE A		
613	2A		B12-0320-04	INDICATOR		
614	2A		B12-0322-04	INDICATOR		
-			B46-0197-00	QUESTIONNAIRE CARD	K	
-			B46-0310-03	WARRANTY CARD	T1T2E	
-			B46-0328-03	WARRANTY CARD	K	
-		✻	B58-0965-13	CAUTION CARD (PL)	T1T2	
-		✻	B58-0966-13	CAUTION CARD (PL)	ME	
-		✻	B58-1562-04	CAUTION CARD		
-		✻	B60-3330-00	INSTRUCTION MANUAL(ENG)	T1T2	
-		✻	B60-3331-00	INSTRUCTION MANUAL(FRN)	E	
-		✻	B60-3332-00	INSTRUCTION MANUAL(GRM)	E	
-		✻	B60-3333-00	INSTRUCTION MANUAL(NTR)	E	
-		✻	B60-3334-00	INSTRUCTION MANUAL(ITL)	E	
-		✻	B60-3335-00	INSTRUCTION MANUAL(SPN)	E	
-		✻	B60-3412-00	INSTRUCTION MANUAL(TWN)	M	
-		✻	B60-3668-00	INSTRUCTION MANUAL(ENG)	K	
⚠ 619	1A		E03-0115-05	AC PLUG ADAPTER	M	
620	1A		E30-0615-05	AUDIO CORD		
⚠ 621	1C		E30-2592-15	AC POWER CORD	ME	
⚠ 621	1C		E30-2650-05	AC POWER CORD	K	
⚠ 621	1C		E30-2721-05	AC POWER CORD	T1T2	
622	1A		E30-2628-05	CORD WITH CONNECTOR		
623	1B		E35-1972-05	FLAT CABLE 19P	T1T2E	
623	1B	✻	E35-2007-05	FLAT CABLE	MK	
624	2B		E35-1973-05	FLAT CABLE 15P		
630	2B		G11-2342-04	CUSHION		
-			H10-7363-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-7364-02	POLYSTYRENE FOAMED FIXTURE		
-			H12-2356-04	PACKING FIXTURE	T1T2	
-			H25-1579-04	PROTECTION BAG	MEK	
-			H25-1581-04	PROTECTION BAG	T1T2	
-			H25-1595-04	PROTECTION BAG		
-			H50-2508-04	ITEM CARTON CASE	MEK	
-		✻	H50-2509-04	ITEM CARTON CASE	T1	
-		✻	H50-2681-04	ITEM CARTON CASE	T2	
635	2C		J02-0370-05	FOOT		
636	2B		J19-3323-05	UNIT HOLDER		

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Ref. No	Address	New Parts	Parts No.	Description	Destination	Remarks
637	1B		J19-3331-05	UNIT HOLDER		
⚠ 638	1C		J42-0083-05	POWER CORD BUSHING		
639	1A		J19-3645-05	ANTENNA STAND		
-			J61-0307-05	WIRE BAND		
640	2A		K29-6358-04	KNOB VR		
641	2A		K29-6744-04	KNOB POWER		
642	3B		K29-6750-03	KNOB		
645	2C	✻	L07-2386-05	POWER TRANSFORMER	T1T2E	
645	2C	✻	L07-2415-05	POWER TRANSFORMER	M	
645	2C	✻	L07-2493-05	POWER TRANSFORMER	K	
650	1A		T90-0182-15	LEAD WIRE ANTENNA	KM	
650	1A		T90-0806-05	LEAD WIRE ANTENNA	ET1T2	
651	1A		T90-0820-05	LOOP ANTENNA		
				TUNER UNIT (X05-4600-XX)		
C1 ,2			CK73FB1H103K	CHIP C 0.010UF K		
C3			CC73FCH1H040C	CHIP C 4.0PF C		
C4			CK73FB1H103K	CHIP C 0.010UF K		
C5			CK73FB1H102K	CHIP C 1000PF K		
C8			CK73FB1H103K	CHIP C 0.010UF K		
C9			CE04KW1C100M	ELECTRO 10UF 16WV		
C10			CK73FB1H473K	CHIP C 0.047UF K		
C11			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C12			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C13			CK73FB1H102K	CHIP C 1000PF K		
C14			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C15			CC73FCH1H220J	CHIP C 22PF J		
C16			CE04KW1C100M	ELECTRO 10UF 16WV		
C17			CK73FB1H562K	CHIP C 5600PF K		
C18			CK73FB1H102K	CHIP C 1000PF K		
C19			CE04HW1E4R7M	NP-ELEC 4.7UF 25WV		
C20			CK73FB1E104K	CHIP C 0.10UF K		
C21 ,22			CQ93FMG1H113J	MYLAR 0.011UF J	M	
C21 ,22			CQ93FMG1H163J	MYLAR 0.016UF J	K	
C23			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C25			CE04KW1C100M	ELECTRO 10UF 16WV		
C26			CE04KW1C470M	ELECTRO 47UF 16WV		
C27			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C28			CQ93FMG1H223J	MYLAR 0.022UF J		
C29			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C30			CE04KW1C101M	ELECTRO 100UF 16WV		
C31			CE04KW1A470M	ELECTRO 47UF 10WV		
C32			CK73FB1H103K	CHIP C 0.010UF K		
C33			CC73FSL1H101J	CHIP C 100PF J		
C34 ,35			CK73FB1H102K	CHIP C 1000PF K		
C36			CC73FCH1H270J	CHIP C 27PF J		
C37			CC73FCH1H220J	CHIP C 22PF J		
C38			CK73FB1H471K	CHIP C 470PF K		
C52			CC73FSL1H470J	CHIP C 47PF J		
C57 -60			CE04KW1C100M	ELECTRO 10UF 16WV		
C63			CC73FCH1H220J	CHIP C 22PF J		
CN1			E40-4609-05	PIN ASSY		
J1			E20-0476-05	LOCK TERMINAL BOARD(4P)		

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Ref. No	Address	New Parts	Parts No.	Description				Destination	Remarks
CF1 ,2			L72-0531-05	CERAMIC FILTER					
CF3			L72-0593-05	CERAMIC FILTER					
L1			L39-1348-05	COMBINATION COIL					
L2			L30-0911-05	AM IFT					
L3 ,4			L40-1091-17	SMALL FIXED INDUCTOR(1UH)					
X1			L77-2185-05	CRYSTAL RESONATOR					
X2			L78-0637-05	RESONATOR	(456KHZ)				
R1			RK73FB2A332J	CHIP R	3.3K	J	1/10W		
R2			RK73FB2A681J	CHIP R	680	J	1/10W		
R3			RK73FB2A5R6J	CHIP R	5.6	J	1/10W		
R4 ,5			RK73FB2A331J	CHIP R	330	J	1/10W		
R6			RK73FB2A101J	CHIP R	100	J	1/10W		
R7			RK73FB2A473J	CHIP R	47K	J	1/10W		
R8			RK73FB2A331J	CHIP R	330	J	1/10W		
R13			RK73FB2A473J	CHIP R	47K	J	1/10W		
R15 ,16			RK73FB2A393J	CHIP R	39K	J	1/10W		
R17			RK73FB2A271J	CHIP R	270	J	1/10W		
R18			RK73FB2A302J	CHIP R	3.0K	J	1/10W		
R19			RK73FB2A822J	CHIP R	8.2K	J	1/10W		
R20 -23			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
R24			RK73FB2A562J	CHIP R	5.6K	J	1/10W		
⚠ R25			RD14NB2E101J	RD	100	J	1/4W		
⚠ R26			RD14NB2E561J	RD	560	J	1/4W		
R27			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
R28			RK73FB2A103J	CHIP R	10K	J	1/10W		
R29 ,30			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
R31			RK73FB2A103J	CHIP R	10K	J	1/10W		
R32			RK73FB2A122J	CHIP R	1.2K	J	1/10W		
R33			RK73FB2A123J	CHIP R	12K	J	1/10W		
⚠ R41			RS14KB3A181J	FL-PROOF RS	180	J	1W		
⚠ R42			RD14NB2E820J	RD	82	J	1/4W		
⚠ R43			RD14NB2E221J	RD	220	J	1/4W		
R44			RK73FB2A101J	CHIP R	100	J	1/10W		
R46			RK73FB2A104J	CHIP R	100K	J	1/10W		
R47			RK73FB2A153J	CHIP R	15K	J	1/10W		
R48			RK73FB2A473J	CHIP R	47K	J	1/10W		
R51 -54			RK73FB2A473J	CHIP R	47K	J	1/10W		
R55 ,56			RK73FB2A154J	CHIP R	150K	J	1/10W		
R59 ,60			RK73FB2A332J	CHIP R	3.3K	J	1/10W		
W101-106			R92-0670-05	CHIP R	0 OHM				
W108-114			R92-0670-05	CHIP R	0 OHM				
W201-211			R92-0679-05	CHIP R	0 OHM				
D1 ,2			HSS104	DIODE					
D1 ,2			1SS133	DIODE					
D3 ,4			MTZJ5.1(B)	ZENER DIODE					
D3 ,4			UZ-5.1BSB	ZENER DIODE					
D8			HSS104	DIODE					
D8			1SS133	DIODE					
D10			MA111	DIODE					
IC1			LA1832	ANALOGUE IC					
IC2			LC72131	MOS-IC					
IC4			NJM4565M	IC(OP AMP X2)					
Q1			2SC2714(R,O)	TRANSISTOR					
Q3			2SA1586(Y,GR)	TRANSISTOR					

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Q3			2SA1611(M5,M6)	TRANSISTOR					
Q5			2SC4116(Y,GR)	TRANSISTOR					
Q5			2SC4177(L5,L6)	TRANSISTOR					
A1			W02-2608-05	FM FRONT-END ASSY					
TUNER UNIT (X05-4622-71)									
C1			CE04KW1C470M	ELECTRO	47UF	16WV			
C2			CE04KW1H010M	ELECTRO	1.0UF	50WV			
C3 -8			CK73FB1H103K	CHIP C	0.010UF	K			
C9			C91-0769-05	CERAMIC	0.010UF	K			
C30			CK73EB1E473K	CHIP C	0.047UF	K			
C31			CE04KW1C470M	ELECTRO	47UF	16WV			
C32			CK73FB1H103K	CHIP C	0.010UF	K			
C33			CE04KW1C100M	ELECTRO	10UF	16WV			
C34			CK73EB1E104K	CHIP C	0.10UF	K			
C35			CE04KW1C100M	ELECTRO	10UF	16WV			
C36			CK73FB1E473K	CHIP C	0.047UF	K			
C37			CK73EF1E105Z	CHIP C	1.0UF	Z			
C38			C90-3217-05	ELECTRO	10UF	10WV			
C40			C90-3253-05	ELECTRO	1.0UF	50WV			
C41			C90-3251-05	ELECTRO	0.47UF	50WV			
C42			C90-3240-05	ELECTRO	2.2UF	35WV			
C43			CE04KW1HR47M	ELECTRO	0.47UF	50WV			
C44			CK73FB1E473K	CHIP C	0.047UF	K			
C45			CC73FCH1H220J	CHIP C	22PF	J			
C46			CE04KW1A101M	ELECTRO	100UF	10WV			
C47			CK73FB1H682K	CHIP C	6800PF	K			
C48			CC73FSL1H101J	CHIP C	100PF	J			
C49			C90-3253-05	ELECTRO	1.0UF	50WV			
C50			CK73FB1H102K	CHIP C	1000PF	K			
C51 ,52			C90-3217-05	ELECTRO	10UF	10WV			
C53 ,54			CK73FB1H273K	CHIP C	0.027UF	K			
C55 ,56			C90-3240-05	ELECTRO	2.2UF	35WV			
C57 ,58			CK73FB1H682K	CHIP C	6800PF	K			
C60			CK73FB1E104K	CHIP C	0.10UF	K			
C61			CK73FB1H103K	CHIP C	0.010UF	K			
C63			CC73FCH1H040C	CHIP C	4.0PF	C			
C64			CK73FB1H333K	CHIP C	0.033UF	K			
C66			CC73FCH1H060D	CHIP C	6.0PF	D			
C67			CC73FCH1H220J	CHIP C	22PF	J			
C68			CC73FSL1H020C	CHIP C	2.0PF	C			
C69			CK73FB1H103K	CHIP C	0.010UF	K			
C70			CC73FSL1H101J	CHIP C	100PF	J			
C81			CC73FCH1H220J	CHIP C	22PF	J			
C82			CC73FCH1H270J	CHIP C	27PF	J			
C84			CK73FB1H102K	CHIP C	1000PF	K			
C85			C91-0745-05	CERAMIC	100PF	K			
C86			C91-0757-05	CERAMIC	1000PF	K			
C87			CE04KW1A470M	ELECTRO	47UF	10WV			
C89			CE04KW1C470M	ELECTRO	47UF	16WV			
C90			CE04KW1H2R2M	ELECTRO	2.2UF	50WV			
C91			CQ93FMG1H223J	MYLAR	0.022UF	J			
C92			CC73FSL1H471J	CHIP C	470PF	J			
C93			CK73FB1H103K	CHIP C	0.010UF	K			
C94			CK73FB1H102K	CHIP C	1000PF	K			

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C95			CC73FCH1H470J	CHIP C 47PF J		
C96			CC73FSL1H101J	CHIP C 100PF J		
CN1			E40-4609-05	PIN ASSY		
CN2			E40-4871-05	PIN ASSY		
J1			E20-0321-05	LOCK TERMINAL BOARD(2P,F)		
CF1 ,2			L72-0536-05	CERAMIC FILTER		
L31			L30-0929-05	FM IFT		
L32			L30-0930-05	FM IFT		
L33			L30-0911-05	AM IFT		
L34			L79-1237-05	LC FILTER		
L35 ,36			L79-1236-05	LC FILTER		
L61			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
L62			L39-1348-05	COMBINATION COIL		
L63			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)		
L81			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
X31			L78-0637-05	RESONATOR (456KHZ)		
X81			L77-2185-05	CRYSTAL RESONATOR		
R1			RD14NB2E101J	RD 100 J 1/4W		
R2			RK73EB2B221J	CHIP R 220 J 1/8W		
R3			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R4			RK73FB2A681J	CHIP R 680 J 1/10W		
R5			RK73FB2A331J	CHIP R 330 J 1/10W		
R6			RK73FB2A220J	CHIP R 22 J 1/10W		
R7			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R8			RK73FB2A331J	CHIP R 330 J 1/10W		
R10			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R11			RK73FB2A681J	CHIP R 680 J 1/10W		
R12			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R13 ,14			RK73FB2A331J	CHIP R 330 J 1/10W		
R15			RK73FB2A101J	CHIP R 100 J 1/10W		
R16			RK73FB2A220J	CHIP R 22 J 1/10W		
R17			RK73FB2A621J	CHIP R 620 J 1/10W		
R18			RK73FB2A123J	CHIP R 12K J 1/10W		
R19			RK73FB2A4R7J	CHIP R 4.7 J 1/10W		
R20			RK73FB2A122J	CHIP R 1.2K J 1/10W		
⚠ R31			RS14KB3A820J	FL-PROOF RS 82 J 1W		
R32			RK73EB2B562J	CHIP R 5.6K J 1/8W		
R33			RK73FB2A302J	CHIP R 3.0K J 1/10W		
R34			RK73FB2A822J	CHIP R 8.2K J 1/10W		
R35			RK73FB2A333J	CHIP R 33K J 1/10W		
R36			RK73FB2A393J	CHIP R 39K J 1/10W		
R37			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R38			RK73FB2A333J	CHIP R 33K J 1/10W		
R39			RK73FB2A223J	CHIP R 22K J 1/10W		
R40			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R41			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R42			RK73FB2A473J	CHIP R 47K J 1/10W		
R43 ,44			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R45 ,46			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R47 ,48			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R49			RK73FB2A473J	CHIP R 47K J 1/10W		
R51			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R52			RK73FB2A104J	CHIP R 100K J 1/10W		

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R53			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R54			RK73FB2A683J	CHIP R 68K J 1/10W		
R55			RK73FB2A473J	CHIP R 47K J 1/10W		
R56			RK73FB2A104J	CHIP R 100K J 1/10W		
R59			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R67			RK73FB2A104J	CHIP R 100K J 1/10W		
R80			RK73EB2B102J	CHIP R 1.0K J 1/8W		
R81 -83			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R84			RK73FB2A103J	CHIP R 10K J 1/10W		
R85 -88			RK73FB2A102J	CHIP R 1.0K J 1/10W		
⚠ R89			RD14NB2E101J	RD 100 J 1/4W		
R90			RK73FB2A562J	CHIP R 5.6K J 1/10W		
R91			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R92			RK73FB2A123J	CHIP R 12K J 1/10W		
R93			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R94			RD14NB2E561J	RD 560 J 1/4W		
R101,102			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R103			RK73FB2A821J	CHIP R 820 J 1/10W		
R104			RK73FB2A473J	CHIP R 47K J 1/10W		
R105			RK73FB2A103J	CHIP R 10K J 1/10W		
W51 -54			R92-0670-05	CHIP R 0 OHM		
W56 -58			R92-0679-05	CHIP R 0 OHM		
W59 -61			R92-0670-05	CHIP R 0 OHM		
W62 -67			R92-0679-05	CHIP R 0 OHM		
W69 -71			R92-0679-05	CHIP R 0 OHM		
W80			R92-0670-05	CHIP R 0 OHM		
W81			R92-0679-05	CHIP R 0 OHM		
W83 ,84			R92-0679-05	CHIP R 0 OHM		
D1			HSS104	DIODE		
D1			1SS133	DIODE		
D31			MTZJ8.2(B)	ZENER DIODE		
D31			UZ-8.2BSB	ZENER DIODE		
D32			MA111	DIODE		
D33			HSS104	DIODE		
D33			1SS133	DIODE		
D61 ,62			HSS104	DIODE		
D61 ,62			1SS133	DIODE		
D81			MTZJ5.1(B)	ZENER DIODE		
D81			UZ-5.1BSB	ZENER DIODE		
D101			MTZJ3.3(B)	ZENER DIODE		
D101			UZ-3.3BSB	ZENER DIODE		
IC1			LA1836	ANALOGUE IC		
IC2			LC72131	MOS-IC		
IC3			M5223FP	IC(OP AMP X4)		
Q1 ,2			2SC2714(R,O)	TRANSISTOR		
Q3			2SA1586(Y,GR)	TRANSISTOR		
Q3			2SA1611(M5,M6)	TRANSISTOR		
Q31 ,32			2SC4116(Y,GR)	TRANSISTOR		
Q31 ,32			2SC4177(L5,L6)	TRANSISTOR		
Q81			2SA1586(Y,GR)	TRANSISTOR		
Q81			2SA1611(M5,M6)	TRANSISTOR		
Q101,102			2SD1757K	TRANSISTOR		
Q103			2SA1586(Y,GR)	TRANSISTOR		
Q103			2SA1611(M5,M6)	TRANSISTOR		

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Ref. No	Address	New Parts	Parts No.	Description			Destination	Remarks
A1			W02-2565-05	FM FRONT-END ASSY				
AUDIO UNIT (X09-469X-XX)								
D560			B30-2521-05	LED(YEL¥PHAI 3)				
C1 -12			CC73FSL1H221J	CHIP C	220PF	J		
C13 ,14			CE04KW1E100M	ELECTRO	10UF	25WV		
C15 ,16			CC73FSL1H221J	CHIP C	220PF	J		
C17 ,18			CC73FSL1H101J	CHIP C	100PF	J		
C19 ,20			CE04KW1E100M	ELECTRO	10UF	25WV		
C21 ,22			CE04KW1H2R2M	ELECTRO	2.2UF	50WV		
C23 ,24			CC73FSL1H101J	CHIP C	100PF	J		
C25 ,26			CK73FB1H223K	CHIP C	0.022UF	K		
C27 ,28			CK73FF1C474Z	CHIP C	0.47UF	Z		
C29 ,30			CK73FB1H333K	CHIP C	0.033UF	K		
C31 ,32			CC73FSL1H220J	CHIP C	22PF	J		
C33 ,34			CE04KW1H4R7M	ELECTRO	4.7UF	50WV		
C35 ,36			CE04KW1H2R2M	ELECTRO	2.2UF	50WV		
C37 ,38			CK73FB1H222K	CHIP C	2200PF	K		
C39 ,40			CE04KW1A101M	ELECTRO	100UF	10WV		
C41 ,42			CC73FCH1H101J	CHIP C	100PF	J	MK	
C43 ,44			CC73FSL1H101J	CHIP C	100PF	J		
C45			CC45FSL1H101J	CERAMIC	100PF	J		
C46 -48			CC73FSL1H101J	CHIP C	100PF	J		
C49 ,50			CC73FSL1H102J	CHIP C	1000PF	J		
C51 -54			CK73FB1E104K	CHIP C	0.10UF	K	T1T2E	
C51 ,52			CK73FB1E473KTA	CHIP C	0.047UF	K	MK	
C55 ,56			CK73FB1H472K	CHIP C	4700PF	K	T1T2E	
C57 -60			CE04KW1E100M	ELECTRO	10UF	25WV		
C61 ,62			CC73FSL1H220J	CHIP C	22PF	J	T1T2E	
C63 ,64			CK73FB1H103K	CHIP C	0.010UF	K	T1T2E	
C101			CE04KW1V102M	ELECTRO	1000UF	35WV		
C102			CE04DW1V221M	ELECTRO	220UF	35WV		
C103			CE04KW1V220M	ELECTRO	22UF	35WV		
C104			CE04KW1V330M	ELECTRO	33UF	35WV		
C105,106			CE04KW1C470M	ELECTRO	47UF	16WV		
C107,108			C90-3743-05	ELECTRO	3300UF	35WV		
C109			CE04KW1V101M	ELECTRO	100UF	35WV		
C110			CE04KW1H470M	ELECTRO	47UF	50WV		
C111			CE04KW1V4R7M	ELECTRO	4.7UF	35WV		
C112			CE04KW1E101M	ELECTRO	100UF	25WV		
C113,114			CE04KW1E100M	ELECTRO	10UF	25WV		
C115			CC73FSL1H471J	CHIP C	470PF	J		
C116-119			CK73FB1H103K	CHIP C	0.010UF	K		
C120			CC73FSL1H221J	CHIP C	220PF	J		
C121			CC45FSL1H221J	CERAMIC	220PF	J		
C122			CE04KW1E100M	ELECTRO	10UF	25WV		
C123			CE04KW1A101M	ELECTRO	100UF	10WV		
C124,125			CC73FSL1H221J	CHIP C	220PF	J		
C126			CE04HW1E4R7M	NP-ELEC	4.7UF	25WV		
C127			CC73FSL1H102J	CHIP C	1000PF	J		
C128			CE04HW1H3R3M	NP-ELEC	3.3UF	50WV		
C129			CE04KW1H010M	ELECTRO	1.0UF	50WV		
C130,131			CE04KW1E100M	ELECTRO	10UF	25WV		
C132			CE04KW1A101M	ELECTRO	100UF	10WV		

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C133,134			C90-3237-05	ELECTRO	47UF	25WV		
C135			CE04KW1E100M	ELECTRO	10UF	25WV		
C136			CE04HW1E4R7M	NP-ELEC	4.7UF	25WV		
C137			CE04KW1E100M	ELECTRO	10UF	25WV		
C138			CE04KW1V4R7M	ELECTRO	4.7UF	35WV		
C139			CE04KW1A221M	ELECTRO	220UF	10WV		
C140			CK73FB1H222K	CHIP C	2200PF	K		
C141			CE04KW1E100M	ELECTRO	10UF	25WV		
C143,144			CE04KW1E470M	ELECTRO	47UF	25WV		
C145,146			CC73FSL1H102J	CHIP C	1000PF	J		
C502			C90-3211-05	ELECTRO	33UF	6.3WV		
C503-505			CK73FB1H103K	CHIP C	0.010UF	K		
C506			C90-3253-05	ELECTRO	1.0UF	50WV		
C507			CK73EF1C105Z	CHIP C	1.0UF	Z		
C508			CK73FB1H103K	CHIP C	0.010UF	K		
C509			C90-3216-05	ELECTRO	330UF	6.3WV		
C513-516			CK73FB1H103K	CHIP C	0.010UF	K		
C517			CC45FCH1H220J	CERAMIC	22PF	J		
C518			CC73FCH1H220J	CHIP C	22PF	J		
C524			CK73EB1H103K	CHIP C	0.010UF	K		
C526			CC73FSL1H220J	CHIP C	22PF	J	T1T2E	
C528,529			CC73FCH1H101J	CHIP C	100PF	J	T1T2E	
C531			CK73FB1H103K	CHIP C	0.010UF	K	MK	
C531,532			CK73FB1H103K	CHIP C	0.010UF	K	T1T2E	
C533,534			CK73FB1H472K	CHIP C	4700PF	K		
C535			CK73FB1H223K	CHIP C	0.022UF	K		
C701			CK73FB1H103K	CHIP C	0.010UF	K	T1T2E	
C702			C90-3240-05	ELECTRO	2.2UF	35WV	T1T2E	
C703			C91-0751-05	CERAMIC	330PF	K	T1T2E	
C704			CK73FB1H561K	CHIP C	560PF	K	T1T2E	
C705			CC73FCH1H470J	CHIP C	47PF	J	T1T2E	
C706			CC73FCH1H220J	CHIP C	22PF	J	T1T2E	
C707,708			CK73FB1H103K	CHIP C	0.010UF	K	T1T2E	
C709			C90-3212-05	ELECTRO	47UF	6.3WV	T1T2E	
CN1 ,2			E40-4871-05	PIN ASSY				
CN3			E40-4809-05	PIN ASSY				
CN4			E40-4810-05	SOCKET FOR PIN ASSY				
CN5			E40-4940-05	FLAT CABLE CONNECTOR				
CN6			E40-4902-05	FLAT CABLE CONNECTOR				
CN7			E40-4906-05	FLAT CABLE CONNECTOR				
CN8			E40-8161-05	SOCKET FOR PIN ASSY				
CN9			E40-8160-05	PIN ASSY				
CN10			E40-8169-05	SOCKET FOR PIN ASSY				
CN11			E40-8164-05	PIN ASSY				
CN12			E40-4632-05	PIN ASSY				
CN15			E40-4906-05	FLAT CABLE CONNECTOR				
J1			E63-1014-05	PHONO JACK (3P)				
J2			E63-0046-15	PHONO JACK (4P)				
J3			E63-0047-15	PHONO JACK (6P)				
J4			E08-0312-05	RECTANGULAR RECEPTACLE				
J5			E70-0034-05	LOCK TERMINAL BOARD			K	
J5			E70-0061-05	SCREW TERMINAL BOARD			E	
J5			E70-0061-05	SCREW TERMINAL BOARD			MT1T2	
J501			E11-0300-05	PHONE JACK				

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⚠	F1			F05-4016-05	FUSE (SEMKO)	(250V T400MAL)			T1T2E	
⚠	F1			F05-8013-05	FUSE (SEMKO)	(250V T800MAL)			M	
⚠	F1			F50-0066-05	FUSE(5X20)				K	
	CN13,14			J13-0075-05	FUSE CLIP					
	L701			L40-1091-17	SMALL FIXED INDUCTOR(1UH)				T1T2E	
	L702			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)				T1T2E	
	X501			L78-0267-05	RESONATOR	(4.194MHZ)				
	X502			L77-2173-05	CRYSTAL RESONATOR(32.768KHZ)					
	X701			L77-2002-05	CRYSTAL RESONATOR(4.332MHZ)				T1T2E	
	R1 ,2			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R3 ,4			RK73FB2A683J	CHIP R	68K	J	1/10W		
	R5 ,6			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R7 ,8			RK73FB2A683J	CHIP R	68K	J	1/10W		
	R9 ,10			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R11 ,12			RK73FB2A683J	CHIP R	68K	J	1/10W		
	R13 ,14			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R15 ,16			RK73FB2A224J	CHIP R	220K	J	1/10W		
	R17 ,18			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R19 ,20			RK73FB2A683J	CHIP R	68K	J	1/10W		
	R21 ,22			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R23 ,24			RK73FB2A224J	CHIP R	220K	J	1/10W		
	R25 ,26			RK73FB2A331J	CHIP R	330	J	1/10W		
	R27 -30			RK73FB2A224J	CHIP R	220K	J	1/10W		
	R34			RK73FB2A182J	CHIP R	1.8K	J	1/10W		
	R35 ,36			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R37 -39			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
	R41			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R43 ,44			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
	R45 ,46			RK73FB2A224J	CHIP R	220K	J	1/10W		
	R47 ,48			RK73FB2A333J	CHIP R	33K	J	1/10W		
	R49 ,50			RK73FB2A101J	CHIP R	100	J	1/10W	MK	
	R49 ,50			RK73FB2A102J	CHIP R	1.0K	J	1/10W	T1T2E	
	R52 ,53			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R67 ,68			RK73FB2A242J	CHIP R	2.4K	J	1/10W		
	R69 -72			RD14NB2E220J	RD	22	J	1/4W		
	R73 -76			RS14KB3DR22J	FL-PROOF RS	0.22	J	2W		
	R77 ,78			RK73FB2A622J	CHIP R	6.2K	J	1/10W		
	R79 ,80			RK73FB2A272J	CHIP R	2.7K	J	1/10W		
	R81			RK73FB2A471J	CHIP R	470	J	1/10W		
	R85 ,86			RD14NB2E4R7J	RD	4.7	J	1/4W		
	R89 ,90			RS14KB3D331J	FL-PROOF RS	330	J	2W		
	R97 ,98			RK73FB2A332J	CHIP R	3.3K	J	1/10W		
	R99 ,100			RK73FB2A912J	CHIP R	9.1K	J	1/10W		
	R101			RD14NB2E2R2J	RD	2.2	J	1/4W		
	R102			RK73FB2A223J	CHIP R	22K	J	1/10W		
	R103			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R104			RD14NB2E151J	RD	150	J	1/4W		
⚠	R106			RD14NB2E100J	RD	10	J	1/4W		
	R111			RK73FB2A163J	CHIP R	16K	J	1/10W		
	R112			RK73FB2A153J	CHIP R	15K	J	1/10W		
⚠	R113			RS14KB3D221J	FL-PROOF RS	220	J	2W		
	R114			RK73FB2A473J	CHIP R	47K	J	1/10W		
	R115			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
	R116			RK73FB2A473J	CHIP R	47K	J	1/10W		

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	R117			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
	R118			RK73FB2A122J	CHIP R	1.2K	J	1/10W		
	R119			RD14NB2E6R8J	RD	6.8	J	1/4W		
	R121			RD14NB2E222J	RD	2.2K	J	1/4W		
	R122			RD14NB2E182J	RD	1.8K	J	1/4W		
	R124,125			RK73FB2A221J	CHIP R	220	J	1/10W		
	R127			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R133			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R138			RK73FB2A473J	CHIP R	47K	J	1/10W		
	R139,140			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
⚠	R141,142			RD14NB2E2R2J	RD	2.2	J	1/4W		
	R149			RK73FB2A473J	CHIP R	47K	J	1/10W		
⚠	R155			RS14KB3D151J	FL-PROOF RS	150	J	2W		
	R157			RK73FB2A473J	CHIP R	47K	J	1/10W		
	R158			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R159			RK73EB2B104J	CHIP R	100K	J	1/8W	MK	
	R161			RK73FB2A332J	CHIP R	3.3K	J	1/10W		
	R162			RK73FB2A333J	CHIP R	33K	J	1/10W		
	R163			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
	R166			RK73FB2A153J	CHIP R	15K	J	1/10W		
	R167			RK73FB2A682J	CHIP R	6.8K	J	1/10W		
	R170			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R171			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
	R173			RK73FB2A472J	CHIP R	4.7K	J	1/10W		
	R174			RK73FB2A473J	CHIP R	47K	J	1/10W		
	R176			RK73FB2A473J	CHIP R	47K	J	1/10W		
	R177			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R185,186			RK73FB2A751J	CHIP R	750	J	1/10W		
	R187,188			RK73FB2A471J	CHIP R	470	J	1/10W		
	R191			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
	R193			RK73FB2A223J	CHIP R	22K	J	1/10W		
	R509-511			RK73FB2A101J	CHIP R	100	J	1/10W		
	R513-515			RK73FB2A101J	CHIP R	100	J	1/10W		
	R517,518			RK73FB2A101J	CHIP R	100	J	1/10W		
	R529,530			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R531,532			RK73FB2A221J	CHIP R	220	J	1/10W		
	R533-535			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R536			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R537			RK73FB2A102J	CHIP R	1.0K	J	1/10W		
	R538			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R540,541			RK73FB2A331J	CHIP R	330	J	1/10W		
	R542,543			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R548,549			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R551,552			RK73FB2A101J	CHIP R	100	J	1/10W	T1T2E	
	R553-556			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R557			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R561			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R564			RK73FB2A514J	CHIP R	510K	J	1/10W		
	R569			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R580,581			RK73FB2A104J	CHIP R	100K	J	1/10W	T1T2E	
	R582,583			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R584			RK73FB2A104J	CHIP R	100K	J	1/10W		
	R585			RK73FB2A103J	CHIP R	10K	J	1/10W		
	R586,587			RK73FB2A222J	CHIP R	2.2K	J	1/10W		
	R589			RK73FB2A473J	CHIP R	47K	J	1/10W		

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R591			RK73FB2A104J	CHIP R 100K J 1/10W		
R592,593			RK73FB2A103J	CHIP R 10K J 1/10W		
R700			R92-1844-05	CARBON 3.3M J 1/2W	K	
R704			RK73FB2A222J	CHIP R 2.2K J 1/10W	T1T2E	
VR1 ,2			R12-1616-05	TRIMMING POT.(1K)		
W203-205			R92-0679-05	CHIP R 0 OHM		
W206			R92-0670-05	CHIP R 0 OHM		
W207-209			R92-0679-05	CHIP R 0 OHM		
W211			R92-0670-05	CHIP R 0 OHM		
W212			R92-0679-05	CHIP R 0 OHM		
W215,216			R92-0670-05	CHIP R 0 OHM		
W218-220			R92-0679-05	CHIP R 0 OHM		
W501-506			R92-0679-05	CHIP R 0 OHM	T1T2E	
W501,502			R92-0679-05	CHIP R 0 OHM	MK	
W508-512			R92-0679-05	CHIP R 0 OHM		
⚠ K1 ,2			S76-0075-05	MAGNETIC RELAY		
⚠ K3			S76-0056-05	MAGNETIC RELAY		
S501-509			S70-0031-05	TACT SWITCH		
PH1 -4			T95-0149-05	OPTO ISOLATOR		
S516			T99-0598-05	ROTARY ENCODER		
⚠ D5			D3SBA20F03	DIODE		
⚠ D5			RBV-402LFA	DIODE		
D6 ,7			MA111	DIODE		
D8 ,9			HSS104A	DIODE		
D8 ,9			1SS131	DIODE		
⚠ D10 -14			S5688B	DIODE		
⚠ D10 -14			1SR139-400	DIODE		
D15 ,16			MTZJ16(B)	ZENER DIODE		
D15 ,16			UZ-16BSB	ZENER DIODE		
D17			MTZJ6.2(B)	ZENER DIODE		
D17			UZ-6.2BSB	ZENER DIODE		
D18			MTZJ6.8(B)	ZENER DIODE		
D18			UZ-6.8BSB	ZENER DIODE		
D19			MTZJ6.2(B)	ZENER DIODE		
D19			UZ-6.2BSB	ZENER DIODE		
D20 ,21			MTZJ4.7(B)	ZENER DIODE		
D20 ,21			UZ-4.7BSB	ZENER DIODE		
D22			MTZJ5.1(B)	ZENER DIODE		
D22			UZ-5.1BSB	ZENER DIODE		
D23			MTZJ3.9(B)	ZENER DIODE		
D23			UZ-3.9BSB	ZENER DIODE		
D24			MTZJ4.7(B)	ZENER DIODE		
D24			UZ-4.7BSB	ZENER DIODE		
D25 ,26			HSS104	DIODE		
D25 ,26			1SS133	DIODE		
D27			MTZJ11(B)	ZENER DIODE		
D27			UZ-11BSB	ZENER DIODE		
D28			MTZJ4.7(B)	ZENER DIODE		
D28			UZ-4.7BSB	ZENER DIODE		
D29 ,30			HSS104	DIODE		
D29 ,30			1SS133	DIODE		
D31			MA111	DIODE		
D32			HSS104	DIODE		
D32			1SS133	DIODE		

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⚠ indicates safety critical components.

✻ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

⑫

Ref. No	Address	New Parts	Parts No.	Description	Destination	Remarks
D33			MTZJ4.7(B)	ZENER DIODE		
D33			UZ-4.7BSB	ZENER DIODE		
D36 ,37			MTZJ20	ZENER DIODE		
D36 ,37			UZ-20BS	ZENER DIODE		
D39			MTZJ3.9(B)	ZENER DIODE		
D39			UZ-3.9BSB	ZENER DIODE		
⚠ D40			KBP02ML-6127	DIODE		
D502			MA111	DIODE		
D503			HSS104	DIODE		
D503			1SS133	DIODE		
D504-511			MA111	DIODE		
D512			HSS104	DIODE		
D512			1SS133	DIODE		
D513,514			MA111	DIODE		
D515-517			HSS104A	DIODE	E	
D515-517			HSS104A	DIODE	MT1T2	
D515-517			1SS131	DIODE	E	
D515-517			1SS131	DIODE	MT1T2	
D515-519			HSS104A	DIODE	K	
D515-519			1SS131	DIODE	K	
D518			HSS104	DIODE	M	
D518			1SS133	DIODE	M	
D519			HSS104A	DIODE	T1T2E	
D519			1SS131	DIODE	T1T2E	
D521,522			HSS104	DIODE		
D521,522			1SS133	DIODE		
D523			MA111	DIODE		
D701			HSS104	DIODE	T1T2E	
D701			1SS133	DIODE	T1T2E	
ED1			FIP9GM6R	INDICATOR TUBE		
IC1			NJU7313AM	ANALOGUE IC		
IC2			NJM4565D-D	IC(OP AMP X2)		
IC3			M62420SP	ANALOGUE IC		
IC4			M5219P	ANALOGUE IC		
IC5			NJM4565L-D	ANALOGUE IC		
IC11			UPD78045FGF057	MI-COM IC	E	
IC11			UPD78045FGF057	MI-COM IC	MT1T2	
IC11			UPD78045FGF059	MI-COM IC	K	
IC12			S-806D-Z	ANALOGUE IC		
IC13			X24C04S	MEMORY IC	T1T2E	
IC701			SAA6579	ANALOGUE IC	T1T2E	
Q1 -4			2SC4213(B)	TRANSISTOR		
⚠ Q5 ,6			2SD2589	TRANSISTOR		
⚠ Q7 ,8			2SB1659	TRANSISTOR		
Q9 ,10			2SC4137(V,W)	TRANSISTOR		
Q11 ,12			2SC1845(F,E)	TRANSISTOR		
Q13 -16			2SC4213(B)	TRANSISTOR		
⚠ Q51			2SD2589	TRANSISTOR		
Q52			2SC1845(F,E)	TRANSISTOR		
Q53			DTC113ZUA	DIGITAL TRANSISTOR		
Q53			UN5219	DIGITAL TRANSISTOR		
Q54			2SA992(F,E)	TRANSISTOR		
Q55			2SA1534A(R,S)	TRANSISTOR		
Q56 ,57			2SC4116(Y,GR)	TRANSISTOR		
Q56 ,57			2SC4177(L5,L6)	TRANSISTOR		

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	Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
	Q58			2SB764(E,F)	TRANSISTOR		
⚠	Q59			2SD2525	TRANSISTOR		
	Q60 ,61			2SA1586(Y,GR)	TRANSISTOR		
	Q60 ,61			2SA1611(M5,M6)	TRANSISTOR		
⚠	Q62			2SC2003(L,K)	TRANSISTOR		
	Q63			2SC4116(Y,GR)	TRANSISTOR		
	Q63			2SC4177(L5,L6)	TRANSISTOR		
	Q64 -66			2SC1845(F,E)	TRANSISTOR		
	Q67			2SA992(F,E)	TRANSISTOR		
	Q68			2SA1586(Y,GR)	TRANSISTOR		
	Q68			2SA1611(M5,M6)	TRANSISTOR		
	Q69 ,70			2SC4116(Y,GR)	TRANSISTOR		
	Q69 ,70			2SC4177(L5,L6)	TRANSISTOR		
	Q71			2SA954(L,K)	TRANSISTOR		
	Q504			2SC4116(Y,GR)	TRANSISTOR		
	Q504			2SC4177(L5,L6)	TRANSISTOR		
	A1			W02-2561-05	ELECTRIC CIRCUIT MODULE		

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R-SE7/SE-7(G)

SPECIFICATIONS

[Amplifier section]

Rated power output

Class AB operation

20 watts per channel minimum RMS, both channels driven, at 6 Ω,1 kHz with no more than 10 % total harmonic distortion.

(DIN) 1 kHz at 6 Ω, 0.7 % T.H.D. .....15 W + 15 W

Class A operation

7.55 watts per channel minimum RMS, both channels driven, at 6 Ω,1 kHz with no more than 10 % total harmonic distortion.

Total harmonic distortion.....0.02 % (1 kHz, 10 W, 6 Ω)
Frequency response.....20 Hz ~ 40 kHz, +0 dB, -3 dB
input sensitivity/impedance .....200 mV / 47 kΩ
Output level/impedance
SUPER WOOFER PRE OUT .....2.0 V / 1 kΩ
TAPE REC.....200 mV / 1 kΩ
Signal to noise ratio .....96 dB (IHF'66)

[FM Tuner section]

Tuning frequency range .....87.5 MHz ~ 108 MHz
Usable sensitivity (DIN)
MONO
.....1.2 µV (75 Ω) / 13.2 dBf (40 kHz DEV.,S/N 26 dB)
Signal to noise ratio
(DIN weighted ar 1 kHz, 65.2 dBf input)
MONO .....65 dB
STEREO .....58 dB
Selectivity (DIN ±300 kHz).....64 dB
Stereo separation (DIN at 1 kHz).....35 dB

[AM Tuner section]

Tuning frequency range.....531 kH z~ 1,602 kHz
Usable sensitivity (30 %mod., S/N 20 dB)
.....15 µV (500 µV/m)
Signal to noise ratio (at 30 %mod., 1 mV input) .....48 dB
Output level/impedance(30 %mod., 1 mV input)
.....0.18 V / 1 kΩ

General

Power consumption .....45 W
Dimensions .....W : 200 mm
H : 77 mm
D : 278 mm
Weight (net).....3.0 kg

Notes
1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. Sufficient performance may not be exhibited at extremely cold locations (where water freezes.).

Note:
Component and circuit are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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